

**Closing the Loop, or Running in Circles?
Assessing Food Waste Policy in Ontario**

by

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ABSTRACT

CLOSING THE LOOP, OR RUNNING IN CIRCLES? IMPLEMENTING A CIRCULAR ECONOMY IN ONTARIO

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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. This research seeks to understand how different members of the food value chain both perceive legislation and align themselves in the creation and treatment of waste. Using social field theory, ecological modernization, and discard studies, this research uncovers lines of tension that may exist in the implementation of a broader waste policy. These lines of tension go beyond typical political ideologies. Instead, they illuminate how different sectors view waste: signalling an efficient vs. inefficient economy; what appropriate mechanisms for treating waste are: fines/bans vs. incentives; and which areas each sector prioritizes: the economy vs. the environment, food safety vs. responsible resource use. Ultimately, this research asserts that until these tensions are resolved, waste legislation will continue to stall in Ontario.

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Table of Contents

Abstract	ii
Acknowledgements	iii
Table of Contents	iv
List of Figures	v
List of Tables	v
Chapter 1: Introduction and Literature Review	1
1.0 Introduction	1
1.1 Food Waste: Scope, Definition, Impacts	2
1.2 Research Aims and Objectives	5
1.3 Waste Management Legislation in Ontario: Past and Present	6
1.4 Waste Management Legislation in Ontario: Future	8
1.5 Assessing Legislation Using Social Field Theory	12
1.6 Assessing Legislation Using Ecological Modernization	15
1.7 Assessing Legislation Using Discard Studies	19
1.8 Opportunities for Research	22
Chapter 2: Research Approach and Methods	24
2.0 Research Motivation	24
2.1 Study Site	24
2.2 Document Analysis	24
2.3 Semi-structured Interviews	27
2.4 Data Analysis	30
2.5 Limitations	31
Chapter 3: Results and Discussion	33
3.0 Introduction	33
3.1 The Field	34
3.1.1 The Economy and The Environment	37
3.1.2 Responsibility and Tools to Promote Responsibility	39
3.2 Other Sectors	44
3.2.1 Municipalities	44
3.2.2 Processors	45
3.2.3 Producers and Research Organization	45
3.2.4 Distributors	46
3.2.5 Retailers and Food Service	46
3.2.6 NGOs	47
3.2.7 Waste Management Companies	48
3.3 Lines of Tension	48
3.3.1 Line of Tension 1: Waste as Inefficient/Waste as Efficient	48
3.3.2 Line of Tension 2: Environmental Protection/Economic Growth	59
3.3.3 Line of Tension 3: Financial Incentives/Bans or Fines	69

3.3.4 Line of Tension 4: Responsible Resource Use/Food Safety.....	83
3.4 Legislative Implications.....	91
Chapter 4: Conclusions.....	94
4.0 Summary of Findings.....	94
4.1 Scholarly Contributions	101
4.2 Policy Contributions	102
4.3 Opportunities for Future Research.....	104
Bibliography	106
Appendix A: Documents Reviewed.....	112
Appendix B: Sample Interview Questions.....	114

List of Figures

Figure 1: Food Recovery Hierarchy	9
Figure 2: Circular Economy.....	10
Figure 3: How a Bill Becomes a Law.....	26
Line of Tension 1: Waste as Inefficient/Waste as Efficient	49
Line of Tension 2: Environmental Protection/Economic Growth	60
Line of Tension 3: Financial Incentives/Bans or Fines	71
Line of Tension 4: Responsible Resource Use/Food Safety.....	85

List of Tables

Table 1: Number of Interviews by Sector.....	27
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Chapter 1: Introduction and Literature Review

1.0 Introduction

Food waste may be considered a pervasive problem in developed countries, with scholars estimating that 1/3 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% of the food produced is wasted, an amount worth over \$31 billion annually (Gooch and Felfel, 2014). The economic implications of food waste have motivated governments to act on this issue in recent years. Notably, some member countries of the European Union have led the charge in implementing a circular economy model to deal with waste (Circular Economy Action Plan, 2017). In a circular economy, instead of a product being disposed of at the end of its lifecycle, it 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 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). It 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 currently exist. Previous legislation has focused either on traditional solid wastes, or recycling wastes. By employing the term “circular economy,” the provincial government is attempting to link the two areas of economy and environment under a cohesive piece of waste reduction legislation.

My research seeks to uncover lines of tension that exist in the creation of this waste

policy, particularly in regards to the food waste portions of the legislation, which has traditionally been overlooked in favor of the solid wastes and recycling wastes, as mentioned above. I will do this by speaking to stakeholders across the food value chain. A “line of tension” is a concept developed by sociologist Carol Mutch used to describe viewpoints that result from opposing political or social ideologies. What follows in this chapter is a review of current food waste literature, a summary of waste legislation in Ontario to date, and an introduction to the methodological frameworks I used to analyze my research.

1.1 Food Waste: Scope, Definition, Impacts

Food waste occurs over many sectors for a variety of reasons, and some research has already been done to measure waste at the household level (Evans, 2012; Hawkins, 2003; Parizeau *et al.*, 2015; Fraser, 2016), production level (Parfitt, 2010) and municipal level (Bulkeley and Gregson, 2009; Ferreira *et al.*, 2017; Salhofer *et al.*, 2008). In addition to financial cost, worldwide improper disposal of uneaten food into landfill accounts for food waste being the 3rd largest contributor of greenhouse gasses behind the United States and China (FAO, 2013). Furthermore, financial losses and greenhouse gas emissions are only the tip of the iceberg; time and resources are lost at all stages of the food value chain. In addition to these losses, Statistics Canada estimated that in 2012, roughly 12.5% of Canadians were food insecure. This is not to suggest that all the food that is lost or wasted could be automatically redistributed to those in need, but rather to illustrate the different social considerations that exist when discussing food. The impacts that result from food that has been wasted can thus be placed into three broad areas: economic, environmental, and social (Papagyropoulou *et al.*, 2014). A thorough investigation into each category will be provided throughout this review.

What is typically thought of as “food waste” can be broken down into two further

categories, loss and waste, as explored by Lipinski *et al* (2013). Lipinski defines **loss** as something that occurs before reaching the consumer (food that spoils, spills, wilts, bruises: see also Gustavsson *et al.* 2011; Kouwenhoven *et al.* 2012; Smith 2008). **Waste** can be classified as food that is uneaten either before or after it spoils: see Evans, 2013; Visschers *et al.* 2015, and Papagyropoulou *et al.*, 2014). This distinction is important to unpack as it exposes that food that was once edible for human consumption is rendered inedible both *before* reaching the consumer and *after*. There currently exists a wide range of literature examining food waste at the home/consumer level, and rightly so: as mentioned above, Gooch and Felfel (2014) estimate that close to half, or 40%, of the food wasted in Canada occurs at the consumer level.

Additionally, significant amounts of food are wasted across the production, distribution, and transport stages of the value chain (Gustavsson *et al.*, 2011). Major wastes may occur at the retail level because of perceived dietary preferences: only the leanest cuts of meat survive, with processors trimming off fat or other edible portions of food that consumers simply will not accept (Alexander *et al.*, 2013; Schott and Andersson 2015). There is also the wastage that occurs due to product being taken off shelves based on best by/use by labels. Often, date labels on products refer to the freshness or quality of a product, rather than whether it is safe to eat. Date labels were originally intended to provide education to consumers, but now mainly exist as a means of turning over inventory. According to the Canadian Food Inspection Agency website, “Products may be found for sale after the “best before” date has passed as the date is based on freshness and quality rather than safety” (Date Markings and Storage Instructions, <http://www.inspection.gc.ca/>). However, misunderstanding about the purpose of date labels (freshness as opposed to safety) can create waste when consumers throw food away that is past the date label, but don’t check to see if the food is still edible. Additional studies have shown that

in developed countries, a higher amount of food goes to waste due to consumer concerns such as aesthetics, whereas in developing countries, food that is wasted occurs from a lack of storage or transportation technology (Lundqvist *et al.*, 2008; Parfitt *et al.*, 2010). Food waste in developed countries can therefore be somewhat of a “chicken or egg” problem: wasted food can be a result of our economic system, and our system is designed to have food that goes to waste (Alexander *et al.*, 2013). Grocery stores rarely “run out” of food, giving consumers a false sense of abundance (Halloran *et al.* 2014). Stores may wish to stay stocked to both attract and retain customers. However, this sense of abundance can lead one astray, assuming since food is always available, it should not be valued--and if it isn't valued, it can be wasted without guilt (Hawkins 2009). It is this system in developed countries that allows consumers the luxury to waste food, as it can be replaced quickly without any pain on the part of the consumer (Göbel *et al.*, 2015). Consumers' relationship to food has changed: food is seen of as a disposable good, or commodity, rather than a substance needed to live (Göbel *et al.* 2015, Winson 1983).

In this abundance of research surrounding the complicated reasons why food waste occurs, there exists a dearth of research on how different parts of the food value chain intersect and react to waste as a **unified entity under legislative mandates**. As will be shown, research that does exist remains siloed and disparate, considering each sector of the value chain in isolation. My research focuses on food waste that occurs upstream in the food value chain, as opposed to the household or consumer level. If using Lipinski *et al.* (2013)'s definition, food waste in this system would be classified as food loss, as it happens before it reaches the consumer. Other scholars, such as Papagyropoulou *et al.* (2014) combine food loss and waste and identify it as a single term, “food loss waste” (or FLW). However, I have deliberately chosen to use the term “food waste” throughout my research. This is because I am investigating legislation

at the provincial level, and “food waste” is the term that has been used by the proposed provincial legislation, Bill 151. Furthermore, Bill 151 is also known colloquially as the “Waste Free Ontario” Act. I believe this naming was intentional, as the emotional impact of the word “waste” cannot be understated. “Waste” is evocative in a way that “loss” is not. “Food loss” is a passive act, something that occurs either by negligence or a lack of knowledge (think, for example of losing money in the stock market, or on a bad investment). Conversely, “waste” implies more blame, shame, or an action that can be corrected. Food waste is something that one *allows* to happen, as in the expression “I let that food go to waste.” (For more on the distinction between loss and waste, see Fraser, 2016.) For these reasons, I have chosen to continue to use the word “waste” when referring to food that is not eaten and is disposed of in a landfill.

1.2 Research Aims and Objectives

As illustrated above, there are a series of complex, multi-layered interactions that result in food waste. Despite this, typical policy initiatives to deal with this issue have a simple focus of either on reduction or prevention (Ferreira *et al.*, 2017; Griffin, 2009; Lober, 1996; Savas, 1977). Gregson and Cragg (2010) elaborate further: waste is typically seen as something that occurs end-of-pipe, and because of this, “divorces policy making from policy intervention” (pg. 1026).

In Canada, some studies enumerate the quantities of and ways that waste is disposed of nationwide (Sawell and Heatherton, 1996), but do not offer alternatives or scope down to Ontario specifically. In Ontario, the literature that does exist is heavily siloed and disparate. Some studies concentrate on recycling (Lakhan, 2015). Others focus more on the household level (Parizeau *et al.*, 2015). A few trade associations have commissioned reports on waste across the municipal level (see the Ontario Waste Management Association’s “Rethinking Organic Waste” reports of 2015). Gooch and Felfel (2014) performed a scan of the institutional, commercial, and industrial

(ICI) sector, but this again reiterates the siloed nature of research that exists. It can thus be shown that there exist few studies on assessing the entire food value chain as it is affected by food waste policy.

Thus, a full analysis on individual stakeholders' perceptions of waste legislation has yet to be undertaken in Ontario. This is a timely concern with the recent introduction of Bill 151, an exploration of which will follow below. Therefore, my research seeks to answer the following question: **What lines of tension exist in the creation of food waste policy in Ontario?** To answer this question, I pursued the following objectives:

1. Determine what impact, if any, legislation has/will have on the flows of food waste in Ontario;
2. Identify how stakeholders define waste and assign responsibility for the treatment of food waste.

As mentioned above, differing and sometimes conflicting definitions of food waste exist. To this end, the second objective is of particular interest. By failing to come to a common understanding of what waste is, it becomes difficult, if not impossible, to legislate it.

1.3 Waste Management Legislation in Ontario: Past and Present

In the Canadian context, particularly Ontario, there have been several start and stop attempts to “manage” waste over the last 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 collect a blue recycling bin from 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. Both recycling (blue

box) 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, O. Reg. 101/94 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 those are in southeastern Ontario, specifically the Greater Toronto Area (data collected from the Association of Municipalities of Ontario, 2017). It can be shown then, that previous waste regulations in Ontario have focused on the diversion of materials, and reuse of materials when it comes to recycling.

Presently, the Ontario government has instigated a restructuring of waste management legislation, spurring the creation of Bill 151. This act proposes that Ontario move towards a circular economy model of waste management, with an emphasis on extended producer responsibility. This bill 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 idea of diversion and reuse of materials rather than source reduction. Yet it differs from previous regulations as it introduces the concept of a circular economy. Many of the concerns of this bill focus on typical sources of waste, and are concerned with recycling. Other parts of the legislation include repealing the current Waste Diversion Ontario system (in which producers pay per item sold, be it plastic bottles, aluminum cans, etc., and the money collected is redistributed to municipal recycling programs) and replacing it with an authority within the province selected by the Minister of Environment and Climate Change. This new authority no longer collects money from the producers and redistributes it to the municipalities but rather exists to enforce the framework of extended producer responsibility as set out by Bill

151. In extended producer responsibility, producers are responsible for both the creation of a product and how it is disposed of once it has been used. Through the creation of this “Resource Productivity and Recovery Authority” (established November, 2016), the province is working to establish itself as a more neutral entity, one that collects information about the types of wastes that occur and levies fines for noncompliance. This perhaps signals where the provincial government wishes to go in the future regarding all types of waste, including food waste.

1.4 Waste Management Legislation in Ontario: Future

As mentioned above, typical waste management practices regarding waste have tended to focus mainly on reduction or diversion (Gregson and Crang, 2010; for a review of Canada, see Levis *et al.*, 2010). **Food** waste often tends to be overlooked or occupies a small space when creating waste policies. 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 impacts the three categories mentioned above: the economy, the environment, and society at large. Yet it is *different* in that it is more of a nuanced, difficult to control material, unlike materials typically collected for recycling (see again Alexander *et al.*, 2013; Douglas, 1966; Evans, 2013; Gregson and Crang, 2010; and Hawkins, 2003). Particularly in the case of extended producer responsibility, ownership matters. Therefore, while food waste often is grouped in with other forms of waste, or put into waste management bills as an afterthought, there does exist a tension when thinking about ways to reduce or divert it. Recall the emotional component that exists for food waste that does not necessarily exist for other forms of waste.

These unique characteristics of food waste have caused it to be looked at differently than other wastes. One such agency who has re-envisioned how food waste should be redirected is the US Environmental Protection Agency. They have developed a food recovery hierarchy, which

suggests a variety of better options to reduce food waste before considering landfilling. The concept is represented by an inverted pyramid. It places source reduction at the top as the most preferred way of dealing with waste. It then moves to feeding hungry people, feeding animals, processing waste in such a way that it can be turned into energy, composting waste so it can be used for plants, and then finally ends with landfilling or incineration as the least preferred method of waste management. (See Figure 1.)

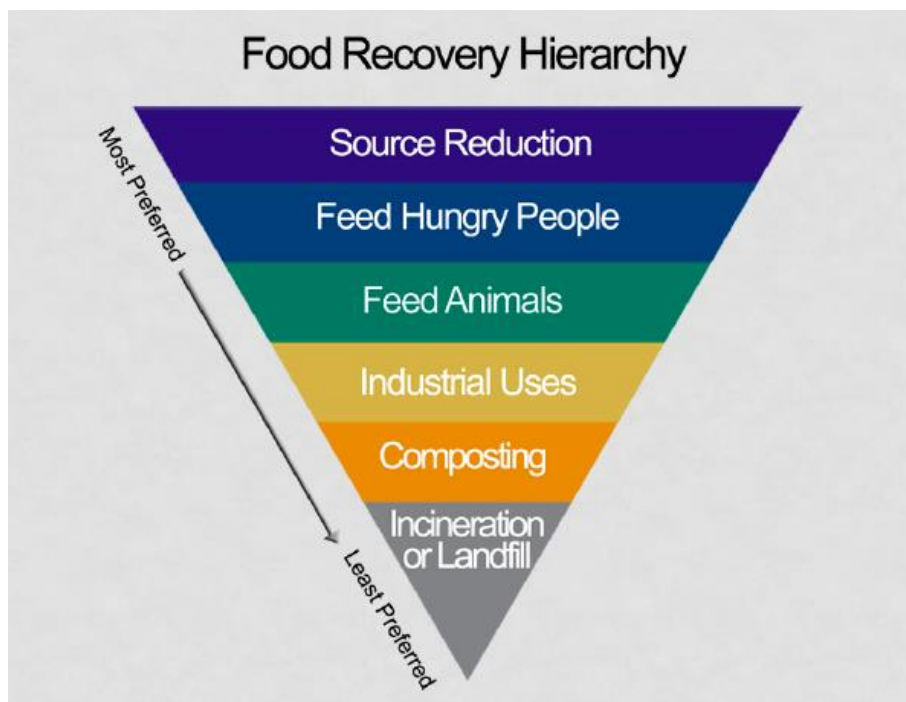


Figure 1: Food Recovery Hierarchy. Retrieved from Bon Appetit Management Company website.

This hierarchy is familiar to those working in the waste management sector, and has been incorporated into food waste reduction strategies in parts of Canada (Metro Vancouver and Nova Scotia), England (WRAP UK), and many EU member countries (Germany, France, Italy, and Denmark). This hierarchy is a good beginning, but recalling the complex, multi-layered interactions that occur when attempting to mandate waste, Ontario has gone a step further by presenting a deliberate intention to create a circular economy. A circular economy exists as an

ideal “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). (See Figure 2.)

In theory, this type of system is economically beneficial as it both extends the life of goods by reusing materials and reduces reliance on the constant creation of new materials. It is



Figure 2: Circular Economy. Retrieved from European Parliament

environmentally beneficial as it will lead to lower greenhouse gas emissions since less material will need to be created. It is socially beneficial as it revalues goods from “one-time use” to be able to be re-used multiple times. A commitment to a circular economy is then a large shift away from previous fixations on diversion rates. 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, 2003) into a more dynamic, efficient system.

As mentioned, other parts of the world are in the process of implementing circular economies. By acknowledging the food recovery hierarchy and implementing solid waste bans,

the countries above are already moving toward this type of economy. That is not to say that the circular economy is not without its critiques: many cite the circular economy as running counter to a traditional economy (Bilitewski, 2012; de Man and Friege, 2016; Morone and Navia, 2015). Additionally, due to our current globalized system of production and consumption, efforts to create a circular economy can lead to uneven distributions of waste to developing countries (Velis, 2015). Finally, it is difficult to envision a system that is truly waste free and a full circular economy, because each time a material is reused, it loses structural integrity. This process is called “downcycling”, and ensures that an amount of new materials must be introduced into an economic system. Note that even in the diagram above, there is still an amount of residual waste that occurs, so having a truly “waste free” Ontario is impossible.

Ontario’s interest in the concept of circular economy can be interpreted as a bid for a more environmentally sustainable future, as the bill itself originated from the Ministry of Environment and Climate Change. With the passage of the Environmental Protection Act (1990), the process to close and create new landfills has become increasingly lengthy and intricate. Additionally, landfills that currently exist in Ontario are quickly reaching capacity. Thus, Bill 151 seeks to alleviate these pressures by finding a way to reuse waste of all kinds (including food waste) to avoid both creating new landfills and continuing to cart waste across the US/Canadian border.

Food waste has been shown to be a large cost to the environment, the economy, and society at large (Alexander *et al.*, 2013; Gooch *et al.*, 2014; Gustavsson *et al.*, 2011; Lundqvist *et al.*, 2008; Papagyropoulou *et al.*, 2014; and Parfitt *et al.*, 2010). Past legislative efforts have failed to slow the problem, and leave ambiguous who is responsible for the reduction and treatment of waste. The very nature/materiality of food makes it difficult to assign responsibility for its proper

disposal (Alexander *et al.*, 2013; Douglas, 1966; Evans, 2013; Gregson and Crang, 2010; Hawkins, 2003; and 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. Ontario has attempted to grapple with this problem for many years with a series of legislative starts and stops. Inspired by other jurisdictions, 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. Yet distrust among members of the food value chain between both one another and the provincial government may make implementing a new system of waste diversion a challenge.

1.5 Assessing Legislation Using Social Field Theory

My aim, then, to uncover the lines of tension that exist in the creation of food waste policy in Ontario first required a scoping of the food value chain and each sector's position on the creation of waste. It therefore was necessary to have a methodological framework which captured the legislation, the participants, and the participants' positions, both in relation to the legislation and one another. One way of visualizing the legislation and these relationships is by using social field theory, as developed by Pierre Bourdieu (1985). Bourdieu, a sociologist, envisioned events or conflicts as occurring on a playing field. He established a series of terms relating to the field to illustrate his point. The "field" is the social space in which the event occurs, or where the action is taking place. This field is a non-hierarchical structure in which players view the problem or situation from their vantage point: there is no one "right" or "correct" way of assessing the situation. A way to think of this visually is a soccer field: when one is on the field, there is no one "correct" way of playing the game. Rather, it depends on where you are positioned how you view the game. Also like a soccer game, a player's position

on the field is not fixed: their relationship to the problem and each other is dynamic and can change. Finally, the field is assessed and created on a case-by-case basis: what is true in one field may not be true in another (Bourdieu, 1985; Greenfell, 2008).

Many “players” in Ontario (members of municipal government, and members of the food value chain: producers, retailers, food service providers, distributors, processors, and waste management companies) find themselves in a particularly interesting situation in which the province decides and the municipality abides. For Bill 151 to be an effective piece of legislation, there needs to be a comprehensive understanding of what members of each part of the food value chain perceive as their role in the production and treatment of waste. Furthermore, it is crucial to uncover how members in each sector of the food value chain perceive the legislation as affecting not only their organization’s structure, but relationships with other organizations as well. Bourdieu’s social field theory is one of the best ways to both map those concerns along a continuum and analyze strengths and weaknesses that players perceive within the prospective legislation. Thus, Bourdieu’s theory can assist in revealing key tensions that have typically lain dormant or hidden between structure and agency (Costa and Murphy, 2015).

Carol Mutch (in Anfara and Mertz, 2015) took Bourdieu’s theory one step further in using it to explain decision-making on education curriculum in New Zealand. Mutch used Bourdieu’s theory to set players on a “field” of curriculum creation, and followed them as the curriculum writing process went through three rounds. She described the field as the place where people “vied for control” over the policy and its ultimate implementation (pg. 161). Additionally, Mutch introduced a “line of tension” upon which she positioned the players. Mutch’s line of tension was a political spectrum, with the far left and the far right being opposing poles. In my research, the lines are less along political ideologies, but rather highlight how the different

players position their sector's responsibility in both producing and reducing waste, as will be further discussed in Chapter 3.

In my study, it was first useful to obtain a sense of where the different organizations perceived themselves to be on the "field" of food waste. In both Mutch's study and mine, the field was set in place by the government. In her case, the government of New Zealand defined the field as the creation of a new social studies curriculum for the country. In my case, the Ontario Ministry of Environment and Climate Change defined the field as the creation of legislation with the goal of a "Waste Free Ontario." In New Zealand, the actors involved included curriculum writers, ministers of education, teachers, and public education lobbying groups. In Ontario, the actors involved included members of the food value chain (producers, processors, distributors, retailers) as well as trade associations, NGOs, waste management organizations, and representatives of the municipal government.

Despite its dynamism and ability to map out multiple players in a cohesive way, field theory does have constraints. First, it has the potential to flatten hierarchies and conceal what is actually occurring. Additionally, it is not a suitable framework for discussing power imbalances that occur in the creation and execution of legislation. Instead, social field theory focuses on who controls or "sets" the field. Another way of thinking about this is who has access to the field, or who gets to play. In the case of Bill 151, the provincial government set the field and allowed or denied access to certain players. Players or participants gained access to the field through "capital", be it social, economic, or political means. Bourdieu often stressed the concept of "cultural capital", which transcends traditional forms of capital (economic) and is primarily an expression of relationship between players on the field rather than something that can be bought, sold, or exchanged for money. Throughout the creation of Bill 151, the players listed above

applied their cultural capital by participating in stakeholder consultations hosted by the Ministry of Environment and Climate Change. Certain players were invited to comment publicly on how the potential legislation would affect their operations during an open committee hearing. Yet as is the nature of legislation generally, and environmental legislation specifically, not all concerns of all parts could be included in the final draft of the Bill. Therefore, the focus of field theory and my findings was not the power structures and hierarchies of legislation in Ontario, but rather how different parties perceived legislation would affect their organization.

Despite these concerns, field theory is an appropriate choice to map the field of food waste policy, as it allows a clear visualization of complex relationships and viewpoints. As noted above, field theory also allows for a scenario where the field that is “set” by the provincial government and members of the food value chain become the actors upon the field. This, combined with Mutch’s lines of tension helped give a quick snapshot of where the different actors’ viewpoints diverge and converge with those of the province.

1.6 Assessing Legislation Using Ecological Modernization

To begin developing lines of tension, I need to look beyond the dichotomies used by Mutch as far right and far left. Food waste is (ideally) a non-partisan issue that transcends political ideologies. When asking different actors about waste, different tensions beyond left and right emerged. One tension that has already been alluded to is that between the environment and the economy. 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 Spargaren, 2010). It arose out of the ecological “crises” of the 1970s and 1980s as a direct response to the “small is beautiful” trend (Schumacher, 1973). During this time, there was a heavy emphasis on technological innovations and a critical attitude to towards the state. “Small is beautiful” posited that resources were not just available for us to take advantage of, but rather that humanity could live more in harmony with nature. (A modern take on this idea can be expressed in the recent campaigns to “eat local.”) In the late 1980s, this shifted to less emphasis on technological innovations, and took a more balanced view of the limitations of the government and the free market. From the mid-1990s onward, as globalization increased, so did the scope of ecological modernization (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.” (pg. 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 figure out the best way to achieve those standards. It is a shift away from previous government intervention 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 towards governance (Jänicke and Jorgens, 2004), wherein ecological modernization helps supplement, rather than replace the state as the main driver of environmental mediation (Fisher, Fritsch, and Andersen 2010). With this shift come questions of who is ultimately responsible, and how they show their responsibility and ownership of any environmental problem (Mol, 2010).

Hajer’s Theory of Environmental Discourse (1995) is one of the building blocks of

ecological modernization. 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” (pg 54). Using discourse analysis as a main 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” (pg. 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 towards reinforcing both 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 word. 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”: the story-lines themselves, the actors that 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 the general place and space in which the problem occurs. Hajer provides a framework for understanding how stakeholders may perceive the environment differently, despite using a common language. He further asserts that discourses around the environment can perpetuate passivity, giving the example of an oil tanker spill: it sounds much different if the subject of the sentence is the oil

tanker as opposed to the conditions in nature that the oil tanker caused (pg. 21). I draw attention to Hajer and his use of story-lines to highlight that while Ontario's provincial government may have a certain idea in mind when using the terms "waste free" and "circular economy", different actors in the food value chain may have different ideas about what those words mean and the resulting implications to waste reduction. Under ecological modernization, the government takes on the role of both promoter of economic growth and protector of the environment. This characterization of the government and all the implications that go along with this characterization directly influenced the lines of tension I developed.

Even still, there are critiques to this worldview. First, some authors note that ecological modernization does little to reform or reorganize the capitalist system in which we live (Mol and Jänicke, 2010; York, Rosa, and Dietz, 2010; Jänicke and Jorgens, 2010). Whereas a traditional economy can be seen as linear—take, make dispose (Ferreira *et al.*, 2017)—a circular economy seeks to disrupt that form by using material normally seen as waste, as a resource. As the circular economy prioritizes neither economic growth nor environmental protection, it can be at odds with "traditional" forms of capitalism (Fisher, Fritsch, and Andersen, 2010). This concept of the circular economy dovetails nicely with ecological modernization, which also does not prioritize the economy over the environment, but rather states that both can and should be achieved under direction of the government. Furthermore, ecological modernization can at times be considered a "techno-institutional fix" (Hajer, 1995) as it relies heavily on the technology of today to solve the problems of tomorrow. It believes that environmental problems can be mastered and controlled. Ecological modernization relies primarily on science and industry professionals to lead the discussion. And, like field theory, it can flatten out or conceal power hierarchies, this time by presenting one vision of looking at the environment and one vision for a solution. In addition,

ecological modernization relies on “black boxing” or “making things appear as fixed, natural or essential” (Hajer, 1995). This is yet another way to conceal or repress opposing viewpoints.

Therefore, power imbalances are not addressed in this framework.

In the past, ecological modernization was a mere end-of-pipe solution to be applied as a last resort, and not necessarily implemented in the design stages of process or integrated along the way. It is imperative for critical geographers to question “business as usual” and ask what voices are being left out of a narrative of society that emphasizes industrialization and does not examine alternatives to capitalist structures. How can one truly have a “waste free” economy by only controlling pollution and not attempting to limit production?

Earlier in this review it was shown that the impacts that result from wasted food can be placed into three broad areas: economic, environmental, and social. While social field theory is a way to envision the actors along the food value chain as players on a field, and ecological modernization attempts to mediate the economic/environmental divide, there still exists a gap that needs to be filled regarding the social implications of wasted food. Both field theory and ecological modernization fail to recognize the social implications of food waste, and how exactly lines of tension can arise from the creation of a food waste policy that attempts to organize the problem of waste in a cohesive manner. The discipline of discard studies provides some elaboration on the remaining social concerns of waste.

1.7 Assessing Legislation Using Discard Studies

Discard studies is an emergent, multidisciplinary field that seeks to “systematically understand what is left out, devalued, and left behind” (Liboiron, 2014). Discard studies offers critical alternatives to what is normally considered waste. Mary Douglas famously stated that “dirt is matter out of place” (1966), and there are those who believe that waste is a cultural

category rather than a physical reality (O'Brien, 2008). Additionally, many studies focus on issues of guilt surrounding wasted food (Evans, 2012; Hawkins, 2003). These studies primarily take place at the household/consumer level, because as has been discussed, this is where food waste is the most visible. However, it has been shown that waste occurs in many sectors beyond the home, so much so that legislation to reduce and reuse wastes has been developed.

Most legislation (including Bill 151) focuses on wastes that are inorganic in nature. Food waste is often treated as an afterthought, and not completely considered when creating food policy or waste policy. There may be several reasons for this. First, there may exist confusion about the precise moment that food “turns into” waste (Watson and Meah, 2012; Gille, 2013). Gille notes that best before dates on food do not refer to food *safety* but rather food *freshness*. Even still, long before food is unsafe for humans to consume, there may be a variety of interactions that occur that cause food to be classified as “waste.” Van Bommel (2016) refers to the time 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.

Secondly, there is an aversion to admitting that one wastes, whether it be food or any other material. The word “waste” itself connotes misuse or a squandering of resources. Gille (2013) introduces additional dichotomies that developed countries may use to describe waste: “efficient/inefficient; useful/useless; order/disorder; clean/dirty; alive/dead; fertile/sterile (pg. 38). Given that those in my study represented industries that do business in Canada, many of them were more on the side of finding waste to be inefficient, useless, dirty, and disorderly. Thus, many members of the food value chain did not wish to admit that their sectors had waste or participated in its creation. Likewise, they wished to distance themselves from the

responsibility of treating waste. Because waste is traditionally treated as an end-of-pipe problem, something that is the result of using a product, there is not a lot of thought put into the behaviors that cause waste to occur in the first place. It therefore becomes difficult to confront our consumption patterns head-on (de Cloverly *et al.*, 2008). There is thus little to no connection between the “treadmill of **consumption**” (the take-make-dispose society as outlined by Ferreira) and our **disposal** patterns. This disconnect perpetuates the notion that litter or waste be kept in its proper place, away from polite society (de Cloverly *et al.*, 2008). Gregson and Crang (2010) expand on this thought by contesting that waste disposal technologies do not completely *eliminate* waste, but rather store or contain it.

Bill 151 seeks to disrupt the dominant narrative of placing waste at the end-of-pipe and instead finding new value for waste as a resource. As noted above, there are many causes for food waste along the supply chain. Whether food is wasted or not relates back to if the food is considered valuable or not. Food has value if it can be consumed. If we are anthropocentric in our thinking, we may expand that phrase to say, food has value if it can be consumed *by humans*. The food recovery hierarchy challenges and stretches the notion of value of discarded food, opening it up to be consumed by animals as well, then continued to be used either to create digestate, compost, or energy. Similarly, in a circular economy, wastes of varying kinds are said to have value in their reuse.

Despite these positive connotations and shifting of thinking about waste as something that has value, waste continues to remain on the margins of society, an “absent presence” (Evans *et al.*, 2013). Discard studies offers a different look at waste, and it critically examines the moment that waste occurs. In the context of my research, it fills gaps left by both field theory and ecological modernization in that it does not treat waste as something that is simply inevitable,

left behind, or to be “fixed” by technology. The strongest critique of ecological modernization is that it allows current business practices to continue “as usual,” and does not interrogate the capitalist structures in which we live. Ecological modernization’s insistence that the technology of tomorrow will solve the problems of today (and tomorrow!) allows society to continue to see waste as an inevitable cost of doing business.

Conversely, the field of discard studies interrogates why and when waste occurs, and speaks to the social components that are overlooked by other bodies of literature. Additionally, discard studies scholarship sheds light on why people avoid discussing waste or prefer to distance both themselves and their sector from its production and treatment. (Again, for more on the social avoidance of waste, see de Cloverly *et al.*, 2008.)

1.8 Opportunities for Research

Food waste may indeed be considered a pervasive problem in developed countries. The environmental, economic, and social costs that result from food waste being improperly disposed of in landfills has prompted some governments to act on the issue. In Ontario specifically, years of start and stop legislation has attempted to reduce the amount of waste that is landfilled. The most recent iteration of legislation is Bill 151, known colloquially as the Waste Free Ontario Act.

Waste (particularly food waste) does not occur in isolation, but rather *throughout* the food value chain. Yet, there does not exist a full evaluation of the different sectors of the food value chain and how they consider both the role of government and their own role in the production and treatment of waste. My research is unique in that it considers the entire value chain together, exploring the relationships that sectors have with the creation and reduction of waste, and also with one another. By using social field theory and ecological modernization as frameworks, viewed through the lens of discard studies, my research seeks to uncover what lines

of tension exist in the creation of food waste policy in Ontario.

To answer my question and achieve my objectives, I interviewed 45 members of the food value chain including: government agents and regulators, municipal employees, retailers, food service representatives, distributors, producers, processors, nongovernment organization members, research organizations, waste managers, and trade association members. The rest of Chapter 2 will outline the methods I used to collect and analyze my data. Chapter 3 will present my findings and connections back to the methodological frameworks I have chosen. Chapter 4 summarizes my findings and presents recommendations for future policy creation and scholarship.

Chapter 2: Research Approach and Methods

2.0 Research Motivation

As Bill 151 had not yet been passed at the time of my study, I was unable to do a complete policy analysis. Therefore, I relied on drafts of the bill and its accompanying strategy documents to determine why it was being proposed, and to what end. First, I considered that the bill was coming from the Ministry of Environment and Climate Change. This signaled to me that the government of Ontario may be attempting to link waste reduction with climate change. Despite my repeated attempts to contact the Ministry to discuss their motivations and hopes for the bill, I was unsuccessful in interviewing them for my study. To answer my research question, I used a combination of two methods: document analysis and semi-structured interviews.

2.1 Study Site

My research was done in the province of Ontario, more specifically the Greater Toronto Area. A few of my interviews were with people located outside of Ontario but who had business interests in Ontario and could therefore speak how provincial legislation affected them.

2.2 Document Analysis

Before conducting interviews, I had to familiarize myself with legislation processes in Ontario. This was the first iteration of document analysis. Prior (2003) suggests that “all documents serve as a two-way mirror on aspects of human culture” (pg. 43), and considers them both structured and structuring; that is to say, documents are generally written by an author with one understanding, and read and interpreted by someone different, who ascribes their own lived experiences and knowledge to the document. It is important to not overlook the relationship between the words on the page and their speaker (Weber, 1985), which establishes context. The

first set of documents I reviewed for my research were records of hearings and advisory committee meetings that took place in Queen's Park in Stratford, Ontario, where the legislative government of Ontario meets. These documents were public records of both the proposal and debates surrounding Bill 151. I also reviewed submissions made by various sectors of the food value chain. These submissions were written comments presented to the government of Ontario during the open comment submission period for the bill. I studied these documents to familiarize myself with the process that a bill takes from proposal to Royal Assent (see Figure 3).

I viewed all three readings of the bill, and the advisory committee meetings. This was to understand the position of different government parties regarding the bill, and how the different parties interpreted the role of the government in addressing waste. From the transcripts of these hearings, I began to obtain a sense of various discourses that exist around waste and ways that members across the value chain interpret the role of government in both producing and reducing waste. These discourses helped me to frame questions that I then used when going out into the

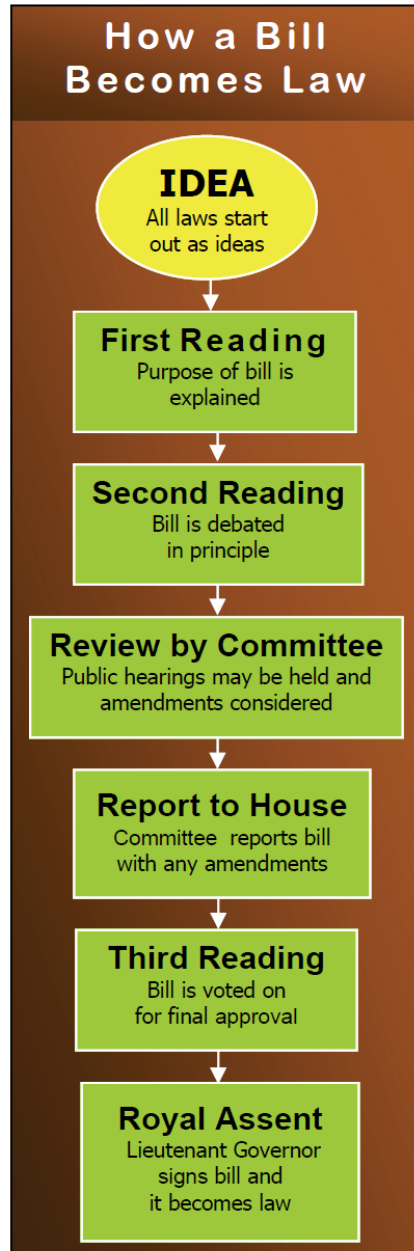


Figure 3: How a Bill Becomes Law.
 Retrieved from Legislative Assembly of Ontario

field and conducting semi-structured interviews with members of the food value chain. I also reviewed previous iterations of waste legislation in Ontario, and the regulations that make up those previous laws. One goal of Bill 151 was to “wind up” the previous legislation into one streamlined, manageable bill. Reading previous iterations of legislation allowed me to see the progression of legislation in Ontario, rather than viewing Bill 151 as a stand-alone document.

(See Appendix A for a comprehensive list of documents analyzed.) After I was familiar with past and proposed legislation, I was able to go into the field and conduct interviews.

2.3 Semi-structured Interviews

I conducted 45 interviews with various members of the food value chain: producers, processors, distributors, food service providers, retailers, waste management companies, NGOs, and research organizations. I also interviewed two government and regulatory bodies and many municipalities. (See Table 1 for a breakdown of each sector.)

Sector	# of Interviews
Government and Regulators	2
Municipal waste management departments	9
Municipal public health departments	2
Retailers	1
Food Service (e.g. restaurants)	3
Distributors	2
Producers	4
Processors	8
NGOs	6
Research Organizations	1
Waste Management Companies	7
Total	45

Table 1: Number of Interviews by Sector

Semi-structured interviews are an important data collection method as they allow an “insider’s look” at a topic (Taylor *et al.*, 2016). They allow the researcher to have access to another’s lived experience, something that cannot be quantified in a textbook, or in the case of my research, a codified law. Cook and Crang (1995) emphasize in *Doing Ethnographies* that beginning with general questions before moving into more difficult or sensitive questions will allow a level of trust to develop organically and establish rapport between interviewer and interviewee. The positioning of the interviewer as a curious and eager individual will allow the interviewee to be

more comfortable, and willing to share, as they feel they are not being judged. Additionally, Denscombe (2014) highlights that small-scale research benefits from semi-structured interviews when the research wants to explore “subtle and complex phenomena... such as opinions, feelings, emotions and experiences... complex issues... and privileged information” (pg. 186). Food waste, legislation regarding waste, and perceptions of who is responsible for the creation and reduction of waste, decidedly fall under these criteria, as they are complex issues and could contain privileged information.

The interviewees were selected from both purposive and snowball sampling: I sent initial e-mails describing my project and the time commitment required to well over 200 potential participants. These 200 potential participants were originally part of an invitee list to a conference held by the University of Guelph in February 2016 called “Building a Research Agenda for Food Waste in Ontario”, and was funded by a knowledge translation and transfer (KTT) grant given to Dr. Parizeau and the food waste research team by the Ontario Ministry of Agriculture, Food and Rural Affairs. From this list, I received between 20-25 respondents who agreed to be interviewed. From the initial round, some participants gave me the names of 5 people to contact as follow up, which I did (snowball sampling). After this process, noticing a lack of representation in certain sectors, I engaged in purposive sampling and searched the internet for public listings of organizations. I also went back to the public consultations that were given by the Ministry of Environment and Climate Change and contacted several organizations that spoke publicly in hearings on what Bill 151 would mean to their organization. This mix of sampling styles was used to ensure I had a representative sample of as many sectors of the food value chain as possible (Longhurst, 2010). Even still, and again due to the “secretive” or “shameful” notion of waste (de Coverly *et al.*, 2008), I could not find more than a handful of

representatives from the retail and food service sector to speak to me. Therefore, I found it useful to talk to industry representatives or trade associations that would be able to give me a better overview of their sector. I interviewed as many participants as I could until I felt that the information I had gave me a good picture of each sector's relationship to waste legislation.

For the interviews, I asked two sets of questions: the first was to obtain a sense of the respondent's views on waste and how they perceived current and future legislation as affecting their sector. The second set of questions were more "big picture" questions. I was strategic in asking questions about legislation in other jurisdictions to facilitate a more "what if?" style of thinking, and allow for more creative thinking on waste in general. These thought experiments lead to great conversations and allowed me to discern how people felt about topics such as the environment and the economy without tying them directly back to Ontario specifically. I wanted participants to feel that they could answer without fear of repercussion, and so all interviewees were assured of anonymity and are identified by sector only throughout this report. (Interview questions can be found in Appendix B.)

After conducting interviews, I returned to document analysis to fill the gaps left by sectors that were less represented than others. Many retailers did not consent to be interviewed, so instead sent me corporate social responsibility reports. Particularly with a sensitive topic such as waste, the documents I reviewed were a good way to gain a historical sense of how different sectors have interacted with the production and reduction of waste over time. These documents were an additional strong source of context and discourses around waste, as they are often front-facing documents that are easily accessed by the public and may be used to bolster a corporation's image by highlighting the steps they are taking to reduce waste. I also reviewed independent reports on waste put out by various sectors. These reports provided more

background details than could be assessed through the public hearings conducted in Queen's Park, as each participant was only allotted 5 minutes to speak and 2 minutes for questioning. Clifford *et. al* (2010) stress that documents (both policy and public) aid the researcher in understanding how policies and programs work, as well as setting out institutional structures. They also assist the researcher in uncovering actions, decisions, and motivations made by individuals or groups, in a way that may not be apparent otherwise. Documents alone do not reveal or create data but rather confirm their existence or authenticity. Likewise, interviews alone do not provide a solid base of knowledge, as the participants will always be speaking from their own interpretation or perspective. Yet the two together can speak to one another and create a more coherent picture (Silverman, 2004). In this way, document analysis provided a book end of sorts to my methods, first as a base of knowledge and later to fill in gaps of knowledge not covered by semi-structured interviews.

2.4 Data Analysis

After completing my interviews, I transcribed each one, shortly after the interview was completed to avoid any missed information and asked follow up or clarifying questions in a timely manner. I then uploaded the transcribed documents into the NVivo software. In NVivo, I performed three rounds of coding. Coding is a way to organize large amounts of data into discrete, meaningful portions. Saldaña (2011) notes that open coding, or descriptive coding, is a good way of organizing the data to begin with, but following up with other types of coding will help to further refine and analyze the data. Descriptive coding begins with looking over the transcripts as a whole and noting key themes, ideas, and patterns that emerge. In this round, I wrote memos to myself about each person's responses, highlighted things of interest, and began to group the responses under broad themes. Saldaña (2013) notes that this is a good practice of

qualitative research. It also encourages reflexivity, an essential component of qualitative research (Ravitch and Riggan, 2012).

From there I moved onto a second round of coding, analytical coding. Before going out into the field, I had an idea of lines of tension that I thought may already exist. For example: does one consider waste to be a sign of a healthy, productive economy, or an inefficient, poorly planned economy? Another example is: is it more important to grow the economy, or protect the environment? It was with these and other lines of tension in mind that I worked through the documents to match them with the themes from the first round. I looked for times where the participants either directly named the lines of tension and themes I was looking for, or referenced them in a more oblique way. Finally, I coded a third time, again descriptively, by looking for more themes that I may have missed after the first two rounds. I noted any codes that emerged that I had not originally thought of, and went through to re-code the data to reflect these new codes. I also eliminated codes that did not present themselves in the data. Denscombe (2014) notes that this refining of codes can help move towards a stronger analysis. Nagy Hesse-Biber and Leavy (2011) and Saldaña (2013) elaborate on how the use of software such as NVivo can help to streamline this process.

2.5 Limitations

I was fortunate in that my original pool of interview participants had already been involved some way with building a research agenda around food waste, either through attending our conference or being invited to attend. Yet, there were certain sectors where the taboo nature of food waste was more prevalent. As noted, I found it difficult to find more than one retailer to agree to speak with me, despite many attempts. Furthermore, Bill 151 covers a wide variety of waste types, not just food waste. As a result, some participants were more comfortable or eager

to talk about things such as packaging waste, or the blue box recycling program. The bill was deliberately written in an open-ended way; therefore, it was difficult to persuade many sectors to commit to more than a general “we’ll have to see” type of answer. I was able to turn this non-committal type of response into a new code, however, and worked to find exactly where the distrust in legislation lay with different sectors of the food value chain. One way that I did this was by asking interview participants directly if they felt that the concerns of their organization were heard in the creation of Bill 151. The responses from this question helped organize the positions of the respondents on the “field” of waste more concretely as it illuminated in their own words a clear “us” versus “them”. Additionally, a major limitation was that I was unable to discuss the bill directly with the Ministry of Environment and Climate Change, who both proposed and authored the bill.

A further limitation on my study was time. As I conducted the study before the bill was finalized, I did not have a chance to follow up with and re-interview each participant after the bill had been fully passed. I adjusted for this by asking my participants for their *perceptions* on how waste legislation might affect their sector and their work. Further research can be conducted by those who wish to see how the implemented version of Bill 151 currently affects these sectors in their day-to-day operations.

Chapter 3: Results and Discussion

3.0 Introduction

As noted, my data collection process was iterative in that I began with document analysis to provide background information on waste policy in Ontario. I then moved on to semi-structured interviews of the major players to determine what impact, if any, legislation had on the flows of food waste. Interviews also illuminated to me how stakeholders defined waste and assigned responsibility for the treatment of waste. I then returned to document analysis to capture any sectors of the food value chain that were not well-represented through interviews, and further explore how stakeholders defined their role in the creation or treatment of waste. When using social field to make sense of the data I collected, I had to first identify the major players that comprised the field.

The first major player is the provincial government. Other players include members of municipal government, processors, producers, distributors, retailers/food service providers, NGOs, and waste management companies. They will be discussed later in this chapter. It can be presumed by the government's introduction of Bill 151 that the government feels responsible to take care of the waste "problem" in Ontario. The introduction of this bill follows a history of start and stop governance that has attempted to address various forms of waste in Ontario over the past 30 years. Similar to Carol Mutch's work (addressed above), the government has established their interest in waste by "setting the field"; that is, defining the parameters of the waste problem, inviting a variety of stakeholders, assigning those stakeholders certain responsibilities and duties, and determining acceptable solutions to the problem. In creating Bill 151, the provincial government has outlined **what** waste is, **who** is responsible for treating it, and **how** those parties are to treat it, which in turn creates a discourse coalition (around waste) as

discussed by Hajer (1995). While food waste comprises a very small portion of Bill 151, we can infer from the bill's definitions and assignments of responsibility how the government of Ontario may later decide to treat food waste.

Combining Mutch's work of social field and lines of tension with ecological modernization and discard studies, I will show how the government of Ontario takes an ecological modernist perspective on the issue of food waste. I will illuminate and explain lines of tension that I developed and discovered through my document analysis and semi-structured interviews. I will then show each sector's responses and map those onto the lines of tension. To do this, I will first describe the field as it has been created and set by the provincial government. I will then describe each sector generally. Finally, I will detail the lines of tension and expand on each sector's position upon each line. This chapter will conclude by explaining the implications each line of tension has for Bill 151 legislation.

3.1 The Field

As mentioned above, the Government of Ontario has a distinct stake in the creation of waste policy. It has been a primary driver in reduction of different forms of waste since the mid-1980s. Legislation has been mainly "start and stop" with the only uniform legislation involving blue box recycling and leaf and yard waste. Blue box and leaf and yard waste were formalized into legislation known as the "3Rs" regulations: Ontario Regulation (O. Reg.) 101/94: Recycling and Composting of Municipal Waste; O. Reg. 102/94: Waste Audits and Waste Reduction Work Plans, and O. Reg. 103/94: Industrial, Commercial and Institutional Source Separation Programs. Beyond these provincial mandates, the application of waste legislation is up to each individual municipality, and therein lies disparity.

Some municipalities have organic waste pick up, while others do not; among those

municipalities that do collect organic waste, there are differences on what is collected. This disparity can be explained by what each municipal council wishes to prioritize. For example, if a municipality happens to have a smaller population, or is located within “cottage country” where residency changes based on season, they may opt out of regular organic waste collection due to the expense of collection, and the expanse of municipal boundaries. With organic waste in particular, standards regarding the composition of compost can limit its widespread application. For example, in Toronto, because they allow diapers and sanitary products to be placed in their curbside green bins, the quality of their compost is listed as A or B, and cannot be applied to farm fields. Compost that consists only of materials such as leaf and yard waste, food waste that is not animal byproducts, and paper bags, is AA quality compost. This AA quality compost can be used on farm fields and in the production of further products. (For more information on compost standards, see Ontario Compost Quality Standards, listed in Appendix A.) Because of these standards, a green bin may lead to compost that can only be used in certain scenarios such as landscaping. At times, green bins can act as a moral “escape hatch” to make people feel better about wasting: composting is seen as the “romantic alternative” to reducing waste, but Qi and Roe (2017, under review) found that participants who were told that their food waste would be composted wasted just as much food as those who were given no information about where their food waste was going. This type of behavior cannot necessarily be “fixed” by legislation, but legislation can be created with these types of concerns in mind. Some may argue (Hawkins, 2013) that this type of behavior change is already evident through the recycling, or blue box program, notably PET water bottles that “lighten the litter” and remove the burden of guilt on the consumer, and normalize single-use products. Although Hawkins’ research was primarily in Europe and Qi and Roe studied wastes in the United States, my research showed that attempts to

normalize or minimize one's own role in produce waste occur across Ontario as well. For the most part, legislation often focuses on household participants, rather than further "up the chain" in processing and distribution.

Thus, under Bill 151, the provincial government seeks to consolidate current laws, eliminate inefficiencies, and resolve contradictions that may cause greater waste overall. From Bill 151 itself, the government has stated:

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

- (a) protect the natural environment and human health;
- (b) foster the continued growth and development of the circular economy;
- (c) minimize greenhouse gas emissions resulting from resource recovery activities and waste reduction activities;
- (d) minimize the generation of waste, including waste from products and packaging;
- (e) increase the durability, reusability and recyclability of products and packaging;
- (f) hold persons who are most responsible for the design of products and packaging responsible for the products and packaging at the end of life;
- (g) decrease hazardous and toxic substances in products and packaging;
- (h) minimize the need for waste disposal;
- (i) minimize the environmental impacts that result from resource recovery activities and waste reduction activities, including from waste disposal;
- (j) provide efficient, effective, convenient and reliable services related to resource recovery and waste reduction, including waste management services;
- (k) increase the reuse and recycling of waste across all sectors of the economy;
- (l) increase opportunities and markets for recovered resources;
- (m) promote public education and awareness with respect to resource recovery and waste reduction;
- (n) promote cooperation and coordination among various persons and entities involved in resource recovery activities and waste reduction activities;
- (o) promote competition in the provision of resource recovery services and waste reduction services;
- (p) foster fairness for consumers;
- (q) do any other related thing that may be prescribed." (Bill 151, 2016)

From this opening statement alone, several conclusions can be drawn. First, the provincial government's main aims are to "protect the natural environment and human health" as well as "minimize greenhouse gas emissions", "minimize the need for waste disposal", and "minimize environmental impacts that result from resource recovery activities." It is clear then that a main driver of this bill is focused on protecting the environment. 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 is a deliberate placement to link the economic opportunity that results from having a safe environment and extended human health. By placing these aims together, the government is stating its intention to not only protect the health of its citizens but also grow the economy.

3.1.1 The Economy and The Environment

From assessing the provincial government’s stance, I developed my first two lines of tension. Recall that in Mutch’s work, a line of tension was listed as a political ideology: conservative right on one end, and liberal left on the other. In my research, I developed lines that were less along political ideologies, but rather highlighted how the different players defined waste, as well as beliefs about what to prioritize when thinking about waste legislation. Through Bill 151, it appears that the provincial government is promoting that economic growth can be achieved by protecting the environment/keeping waste out of a landfill.

Because these two ideas of economy and environment are often at odds with one another, I developed two lines of tension based on the provincial government’s stance: *Is waste the sign of a healthy, productive economy, or is waste the sign of an inefficient, poorly planned economy?* and *Is it more important to protect the environment or grow the economy?* By placing the first two aims of protecting the environment and fostering the growth of a circular economy in such close proximity to one another, the Ontario government is suggesting that one doesn’t have to choose: one can have both a healthy environment and wealthy economy. Further statements by the government in the “Strategy for a Waste Free Ontario: Building the Circular Economy” (released December 2016) show that the government considers the two outcomes as developing in tandem with one another:

“For Ontario to thrive, it is important that we move toward a more circular economy. This model affords a viable opportunity to successfully tackle environmental priorities, drive performance, innovation and competitiveness, and stimulate economic growth and development... This strategy provides the blueprint for Ontario to close the resource loop and transition to a system where valuable resources are recovered from the waste stream. This approach is a practical and progressive way to ensure the effective use of our resources, **which is critical to an Ontario where strong environmental protection underlies a sustainable and strong economy.**” (Building the Circular Economy, pg. 6-7, emphasis added)

This “progressive” strategy is a direct legacy of ecological modernization, which shifted waste as something to be dealt with end-of-pipe, to something to be anticipated and designed for (Mol and Spaargaren, 2009). Recall: whereas a traditional economy is linear—take, make, dispose (Ferreira *et al.*, 2017)—a circular economy seeks to disrupt that form by using material normally seen as waste, as a resource. The above statement highlights the circular economy as a process that “close[s] the resource loop.” The province of Ontario is thus not only highlighting waste reduction as something that is good for the environment but also for the economy. By redefining waste as a resource, the government is tying economics and ecology together, “[tackling] environmental priorities ... and [stimulating] economic growth” all at once. The government is saying that one doesn’t have to choose between a good economy and a healthy environment, but rather that it is possible to achieve both.

Later in this document, the connection is made even more clear:

“A circular economy **protects the environment**: A circular economy recognizes that Ontario’s landfills do not have infinite capacity... A circular economy will help Ontario **stay competitive**: Increasing waste diversion rates and improving resource recovery will help Ontario businesses stay competitive as the global economy becomes more resource productive... A circular economy **drives innovation**: Shifting to a circular economy encourages businesses to design long lasting, reusable and easily recyclable products.” (Building the Circular Economy, pg. 6, emphasis added)

From this statement, it can be inferred that the government is promoting the circular economy as a way to increase the economy by remaining globally competitive. The government “recognizes that Ontario’s landfills do not have infinite capacity” and proposes a system of reuse as a way to extend the life of those landfills. Wastes have no value if they remain in a landfill, but are

transformed into resources when diverted from a landfill and repurposed. More evidence that the government is promoting the power of transformation can be found throughout the strategy document. The heading on each page states “Transforming Ontario into a Leader.” In the proposal stages of this bill, proponents would invoke Ontario’s past as a leader in the blue box recycling program, as Ontario was the first province to mandate uniform curbside collection of the blue box in the 1980s. This deliberate callback shows that the current government has a desire to come out ahead on the issue of waste and capitalize on the economic opportunities that reducing waste and reusing product can afford. 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).

Thus, signs that the government is adopting an ecological modernist perspective are as follows: first, waste is seen not as something to be dealt with at the end-of-pipe, but rather something to be thought of in the development stages of a product. Second, there is a focus on the twin outcomes of environmental improvement and economic prosperity. They are not separate from one another, but rather seen as mutually dependent upon one another. These stances place the provincial government on the first line of tension as waste being a sign of an inefficient, poorly planned economy. As for the second line of tension, the government is not subscribing to the binary of prioritizing either the economy or the environment, but has shown that it believes that a cleaner, more sustainable environment will lead to a more prosperous economy.

3.1.2 Responsibility and Tools to Promote Responsibility

Another thing to bear in mind is how the provincial government is assigning responsibility for the treatment of waste. Although the government is taking an active role in

bringing the bill forward, there is not much that the provincial government is considering *itself* responsible for in terms of the treatment of waste. Instead, the government has assigned responsibility to other parties in a variety of ways. Recall the first section of Bill 151 itself, as listed above:

“It is in the provincial interest that Ontario have a system of resource recovery and waste reduction that aims to: ... (f) hold persons who are most responsible for the design of products and packaging responsible for the products and packaging at the end of life.” (Bill 151, 2016).

Although the wording of this section is passive (as is standard of most government documents), there are two key takeaways from this statement. First, a large degree of responsibility is being given to those who design products and product packaging. Nowhere else in this opening statement is the word “responsible” or any of its permutations mentioned, although “cooperation and coordination among various persons” is listed as a later aim (aim n). Next, it can be inferred from this focus on products and packaging, that food or organic waste is not a main concern of this bill. (It is difficult to assign responsibility for the banana itself, or the banana peel.) So it follows that a majority of the rhetoric and focus in Bill 151 is not organic waste, but “regular” or inorganic waste: both the products themselves, and their packages.

In fact, organic (food) wastes are mentioned only once in Bill 151. It is stated that sometime in the future, there will be an “organics strategy.” In the Building the Circular Economy document, two references are made to organic waste, and one of them refers to another strategy: Ontario’s Climate Change Action Plan. A review of the Climate Change Action Plan shows that there are many action items to create a low-carbon future, but elimination of food waste does not receive its own category. Instead, diversion of organic materials is listed under a subheading referencing the Waste Free Ontario Act (Bill 151). This somewhat dizzying and “circular” logic, if you will, of documents referring to one another only to refer back to the original Bill 151 may further highlight how food waste is of very little concern of the current

government.

What *is* of concern for the administration is clearly stated in aim (f) above: holding producers of goods and packaging responsible to design and implement more environmentally efficient packaging. Under Section 61, entitled “Persons Who May Have Responsibilities”, brand holders are responsible for the following:

1. Registration
2. Waste reduction
3. Collection
4. Management
5. Promotion and education
6. Reporting, auditing and record keeping (Bill 151, 2016)

Currently the brand owners are responsible for items 1 and 6. Item 2 can be open to interpretation: is it only on the consumer to reduce waste? Many respondents I spoke with equated waste reduction with economic benefit. As for items 3, 4, and 5, those are responsibilities that are currently under the purview of municipalities. Municipalities collect and manage waste through the curbside blue box, as well as educate the household on which items belong in the blue box in the first place. By shifting responsibility of items 3, 4, and 5 to brand holders, the provincial government is signaling that it is in favor of extended producer responsibility.

While this may look like a straightforward list of responsibilities, the wording following this section remains passive. Instead of outlining specifically *how* the brand owners take responsibility for items 1-6, the explanation of each of these categories begins Bill 151, despite being over 144 pages long, contains quite a bit of skeletal legislation, relying on later regulations to fill in the gaps. Throughout my research, this lack of legislation was cited by some as being enabling, or lacking of “meat on the bones.” It was designed this way to perhaps facilitate stakeholder participation in the creation of the regulations, but at the time of my study and up

until now, these regulations have yet to be created.

As noted, it appears that the current provincial government believes that extended producer responsibility provides a clear opportunity to reduce waste. In the “Strategy for a Waste Free Ontario”, further explanation is given under Objective 2, Enable Efficient and Effective Recovery Systems:

“Amend the 3Rs regulations to increase resource recovery across all sectors... Now more than 20 years old, the 3Rs regulations no longer adequately drive waste diversion. Their requirements are limited to large establishments and only select waste materials, and require only ‘reasonable efforts’ to send source-separated wastes for recycling or reuse.” (Building the Circular Economy, pg. 22)

The 3R regulations mandate recycling and packaging wastes, and focus primarily on the creators of that packaging, the Industrial, Commercial, and Institutional (ICI) sector. Here, the government is acknowledging that when the 3Rs were originally created over 20 years ago, types of materials that have come to market had not even been conceived of. Furthermore, the government is hoping to course-correct previous legislation by not leaving it open for interpretation: nowhere does it now say that the ICI sector should continue to only make “‘reasonable efforts’ to send source-separated wastes for recycling or reuse.” However, just as there is not a clear directive on how these policies are to be carried out by the ICI sector, there is lack of language on how these measures will be enforced, and if they were will be enforced by financial means such as fines or tax incentives. The only mention of fines levied falls under a section that discusses “Administrative Penalties” which do not directly deal with the waste itself, but rather, the administrative costs that may occur from not following the law that may or may not be in place. Therefore, the provincial government has yet to signal where they fall on the following line of tension: *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)?*

Although there is not legislation that provides tax incentives for the donation of uneaten food, there *is* established legislation that promotes the redistribution of edible food from retailers and food service providers to NGOs. Ontario’s Donation of Food Act (1994) is a piece of legislation that waives liability if someone is to become sick from donated food. This law waives liability to both the food donor and the food distributor:

“Liability of donor

(1) A person who donates food or who distributes donated food to another person is not liable for damages resulting from injuries or death caused by the consumption of the food unless,
(a) the food was adulterated, rotten or otherwise unfit for human consumption; and
(b) in donating or distributing the food, the person intended to injure or to cause the death of the recipient of the food or acted with reckless disregard for the safety of others. 1994, c. 19, s. 1 (1).

Liability of director, agent, etc.

(2) The director, agent, employee or volunteer of a corporation that donates food or that distributes donated food is not personally liable for any damages resulting from injuries or death caused by the consumption of the food unless,
(a) the food was adulterated, rotten or otherwise unfit for human consumption; and
(b) in donating or distributing the food, the director, agent, employee or volunteer,
(i) did not act in good faith,
(ii) acted beyond the scope of his or her role as director, agent, employee or volunteer, and
(iii) intended to injure or to cause the death of the recipient of the food or acted with reckless disregard for the safety of others.” (Donation of Food Act, 1994)

Here we see several caveats: liability is waived unless the food is “adulterated, rotten or otherwise unfit for human consumption.” One can assume that if the food *is* adulterated, rotten, or unfit for human consumption, that it will not be accepted as a donation and should thus be “disposed of” by retailers or food service providers in another way. Thus, this food has demonstrated value in how it relates to human consumption. Again, in this bill the donation of food is not tied to any tax credits, as it is in a similar bill in the United States. There is no financial gain to be recouped by the donor, unless one is to count “savings” as not having to dump this food into a landfill or figure out another use for it. Taken with Bill 151, it can be shown that the provincial government therefore prioritizes **both** responsible resource use (keeping the food out of the landfill) and food safety (covering liability of food that is not

“adulterated, rotten, or unfit for human consumption”). Therefore, when considering a final line of tension, *Which should be more heavily prioritized, responsible resource use or food safety?*, it can be shown that the government prioritizes both through the introduction of both Bill 151 and the continued support of the Donation of Food Act.

Now that I have discussed the provincial government’s “setting of the field” and where they fall along the lines of tension, I will now show the other sectors I interviewed.

3.2 Other Sectors

The following sectors represent the rest of the food value chain: municipal government, processors, producers, distributors, retailers/food service providers, NGOs, and waste management companies. I chose to place municipalities first, as they are often **most** directly affected by provincial legislation. I then highlight processors, as they have historically shared the cost of the blue box recycling program with municipalities. I then follow the food value chain as it is traditionally viewed: producers, distributors, and food service/retailers. This section concludes with NGOs and waste management companies, which traditionally occupy the final resting places for food and waste.

3.2.1 Municipalities

I spoke to 11 municipal respondents for my study: 9 represented municipal waste management, and 2 represented public health units. Recall: provincial government only requires municipalities to perform curbside collection of blue box (recycling) bins. There is no provincial requirement on green (organic) bin collection. Thus, municipalities who collect green bins do so voluntarily. Of the 11 municipal representatives I interviewed, 10 of them had a green bin collection program sponsored by the city. Due to this high number of participants with a municipal green bin program, most of the “cost” as discussed by the municipalities involved

discussion of costs of operating the blue box program. Because the green bin program is voluntary, it can be assumed that those participating in this program do so despite the cost. That being said, it is still quite costly to operate a green bin collection program, and thus discussions on cost can be expanded to the area of food waste. I will continue to differentiate between the blue and green bin costs throughout my analysis. Overall, this sector has been subjected to the “ups and downs” of waste management in the province since the 1980s and can be characterized by having a slight wariness to more provincial legislation and concern about the future of curbside waste collection.

3.2.2 Processors

I spoke to 8 processors for my study. They represented the second-largest group of participants that I interviewed. I interviewed both processors that represented individual companies, as well as those who were speaking on behalf of industry organizations. The industries represented were food, beverage, and packaging. As the “other side” of the blue box partnership with municipalities, this sector has been in conversation with the province for many years and been regulated on their role in the treatment of waste products. Bill 151 expressly states an interest in extended producer responsibility, which will be felt keenly by processors that package food and sell it to market. Like retailers/food service representatives, distributors, and producers, this sector is primarily concerned with turning a profit. Overall, and like producers below, this sector can be characterized by having a wariness towards governments as being in the way of market processes and perhaps profits. This wariness may express itself as caution against the unintended consequences of legislation.

3.2.3 Producers and Research Organization

I spoke to 4 producers and 1 research organization for my study. I am grouping the

research organization with the producers as the organization is primarily funded by and researches issues that affect producers. Like processors, distributors, food service/retailers, producers are primarily concerned with making a profit. They cite the same (“razor thin”) margins that affect retailers, and have a similar feeling that provincial government should move out of the way of innovation in the marketplace. Like the province and retailers/food service, this sector does not feel that one needs to prioritize economy over the environment. Rather, some may say that a clean environment can lead to better profit. However, producers’ overall wariness of government intervention signifies a deep distrust that may lead to difficulty in implementing policy. This is a similar distrust of big government that municipalities and NGOs feel, but for a different reason.

3.2.4 Distributors

I spoke to 2 distributors for my study. This small sample size mirrored limitations I had when attempting to reach more retailers and food service providers. This may speak to a discomfort with even admitting that food waste exists in commercial food sectors. Of the two distributors I spoke with, only one agreed to be recorded, and one focused primarily on inorganic, packaging wastes, despite my efforts to steer the conversation to organic food wastes. Like retailers and food service providers, this sector was mainly concerned with maximizing profits as their bottom line. Government intervention was not strongly commented on by this sector, either in the creation or enforcement of waste reduction policies. Therefore, I was unable to draw conclusions on how this sector feels about government intervention, and its effectiveness.

3.2.5 Retailers and Food Service

I spoke to 1 retailer and 3 food service providers (such as restaurants and catering

companies) for my study. The lack of retailer representation may speak to a discomfort with even admitting that food waste exists in their sector. Some respondents in this sector are uncomfortable with the term food waste as food waste is seen as a “loss,” or a missed economic opportunity. Thus, these sectors may refer to food waste by such euphemisms as, “inventory that isn’t moving.” Referring to food waste as loss instead of a waste is a deliberate use of an economic term (good businesses shouldn’t “waste” anything). This sector is in line with other sectors who derive profit from the sale of food, and is wary and distrustful of government intervention.

3.2.6 NGOs

I spoke to 6 NGOs for my study. Of the 6, 5 directly worked with food as distributors to people in need and 1 was an environmental NGO who was primarily concerned with the environmental impacts of food waste. Common themes among the two types of NGOs were feelings of powerlessness against larger corporations or lobbyists, and a concern that their organization can be viewed as a “dumping ground” for unwanted food waste. Like municipalities, NGOs expressed that they feel underfunded compared to large, corporate organizations. A few also felt that food waste is an inevitable part of a capitalist system that prioritizes maximizing profit. Like retailers, some of the NGOs I spoke to were uncomfortable with the term food “waste,” but for different reasons, as NGOs are not selling food for profit. Instead, NGOs are often working with food on the cusp or at the margins of society to redistribute to their clients. These respondents used terms such as “rescued”, “repurposed”, or “excess” food, and many called food waste a “resource”. All respondents in this group were familiar with the food recovery hierarchy and the 5 mentioned above considered themselves as part of the second tier, feeding food to hungry people.

3.2.7 Waste Management Companies

I spoke to 7 members of waste management companies for my study. They represented the third-largest group of participants that I interviewed. Like processors, respondents represented both individual companies as well as industry organizations. They also represented a wide variety of disposal options: anaerobic digestion, composting, biogas, recycling, and landfilling. As many of these industries sustain themselves on receiving value from products that other sectors traditionally see as “wastes”, these respondents had a unique perspective. Despite the different ways that members of this sector interact with and treat waste, they were unified in their economic views. This is because this sector approaches the idea of waste differently than any other sector and views it primarily as a resource. This sector was mixed on their views of government intervention, with some preferring the government to both invest in and lead the market on waste, while others favoring more “organic” methods of allowing the market to correct itself.

3.3 Lines of Tension

As discussed, differing views on **what** waste is, **who** produces it, and **how** it is treated can lead to difficulties in creating a legislation that can effectively manage waste. While the provincial government has outlined their position by creating Bill 151, it is important to examine lines of tension that exist between the different sectors, as it will impact how effectively the bill is implemented. I have identified four main lines of tension and will now discuss each of them in turn.

3.3.1 Line of Tension 1: Waste as Inefficient/Waste as Efficient

In creating Bill 151, the provincial government is signaling its intention to move towards a circular economy. Recall that in an ideal circular economy, one strives for having as little waste

market. They are also alluding to difficulty in changing provincial or municipal regulations regarding which materials are considered “recyclable” over time. The blue box program was implemented in the 1980s, and technology in packaging has advanced considerably since that time. However, educating the public on what is acceptable for the blue box is an ongoing process: “people would be up in arms” if a municipality decided to take a material out of the blue box because it is no longer valuable, or able to be sold to an end market. For example, another municipality noted the emergence of yogurt pouches in recent years, as opposed to traditional plastic yogurt tubs:

“...Look at the change in our packaging. I’ve seen large yogurts in stand up pouches... Everything is in the squishy pouches. I’m not saying that squishy pouch is a totally bad change, because they can get more units on the truck, they probably use less fuel, less fuel is less GHG [greenhouse gas], you know? It will be less volume in the landfill, I guess? But the thing is, they made that package and they didn’t think of the end of life of it... So it can’t be recycled... and there will still be the waste stream left over that they’re not dealing with...

The other thing is that even if the municipality was able to recover those materials from a waste stream, from a garbage stream or from litter: even if I have it, I won’t be paid for it. Even if I said, here you go, steward, I’ve recovered all of this stuff... will you take it? I won’t get paid for collecting it or doing it.” (Municipality 5)

Here again is highlighted the concept that different wastes can have different values. The provincial government is working to address this issue (see above for note on extended producer responsibility and designating new materials for recycling). While this respondent is noting that overall the “squishy pouch” has the potential to lead to a lighter truck and less greenhouse gas emissions, because the package was not designed with the blue box in mind, the municipality is ultimately left holding the bag (or the box, in this case) to find a way to find an end market for this recycled product. Therefore, these specific types of blue box wastes are seen as burdensome to the economy and economically taxing on the municipalities. These quotes also illustrate the tensions that exist between municipalities and producers when it comes to fair or equal payment into a system that was designed to be shared 50/50 between the two parties. Thus, municipalities

fit along the line of tension as waste being a sign of an inefficient, poorly planned economy.

As with other sectors that work with food and sell it for profit, **processors** consider waste to be the sign of an inefficient, poorly planned economy. Waste is seen as a burden on the company that negatively impacts their bottom line, first in the fact that the product cannot be sold for profit, and then that it can be expensive to haul away. Moreover, if a company decides that it wishes to “treat” the waste on site to recover value from it, there is an added cost of developing appropriate recovery systems. The best-case scenario for processors then is to not have waste, or to have a situation where the waste that they do have is accounted for in a way that they can make a profit from it. These three ideas are expanded upon below:

“So we have an operations budget... and we’ve taken a look at plant manager Bob, X number of tons are going out his back door on a daily/weekly/monthly basis, 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)

Here we see highlighted the second issue: dumping of organics. Processors typically must hire a private contractor to dispose of their waste. Depending on the size of the plant and how often they require collection, this can be quite costly, as waste collectors charge per ton. A simple strategy to reduce costs would therefore be to waste less. This respondent has illustrated this problem succinctly.

Another respondent highlighted the third issue, developing appropriate recovery options for waste:

“There’s always an economic challenge in recovering it in a way that usually costs money to develop recovery systems. You know, if you have a process that creates peels, you’ve actually got to put something next to a machine that’s going to recover that, and put it in a container, and then you need to find a market...” (Processor 5)

First, recovering waste at all is listed as a challenge: one must find the proper receptacle to contain it, which is a cost. Beyond simply collecting it, finding an end market is of paramount

importance. Like recycling wastes, without an end market, processors may struggle to justify collection of a product. While not expressly stated by this respondent, it's implied that existence and continuation of an end market/recipients for a waste will drive the collection process. Otherwise, it may be simpler to just landfill the item in question. If one has a small operation, the logistics in which to locate a recipient for waste peels, transport the peels, and then ensure payment for said peels may just not be worth it. Processors, like municipalities, thus believe that waste is the sign of an inefficient, poorly planned economy.

Similarly, many **producers** are loath to waste, as it is a loss of resources, time, and energy.

“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)

This sentiment was expressed by retailers and food service as well: when you are beholden to a market, it is in your best interest to sell everything to the most of your ability and you do not want to waste. In this sector, there is a reluctance to use the word “waste” and instead there is a focus on “loss”, and the assignation of value to materials as being inedible or unusable:

“It's an interesting thing for the meat industry, because they don't necessarily have food “waste.” In the food industry, whenever you have product that you can't use, and we'll call them inedible materials from the kill floor, right? All those things that you can take out of the carcass that nobody can use, that's not really food... that's really, truly waste. But anything else that they're generating within their facility go into what we call rendering bins. So, those rendering bins actually divert the inedible foods, the food wastes, to rendering companies who then convert it into animal feed, pet food, and/or energy, cosmetics... I mean, those guys can make just about anything out of fat!” (Producer 2)

There are multiple things to unpack from this statement. Again, there is the shying away from use of the word waste. Distinguishing materials as things that cannot be repurposed as food are “really, truly, waste.” However, these materials receive a second life after being rendered, turned into energy, animal food, or cosmetics. This transformation is deliberate on behalf of the producer to continue to make a profit even if the product cannot be sold or redistributed as food

for humans. While food waste itself may not exactly be the sign of a productive economy, economic benefits may result from waste that occurs.

It should be noted that this respondent's optimism about reusing food wastes to create other products was unique among my group of respondents. Others were less optimistic and saw waste as a true loss or waste of opportunity.

"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 having food waste come back to feed animals or the soil, this respondent is expressing that the ultimate value of food is in how it can be sold for a profit to be consumed by humans. This specific definition of value relates back to how the food is produced: with "a lot of [someone's] time and energy." While the food recovery hierarchy posits that redirection of food to both animals and composting is still preferable to landfilling it, this producer feels that going to waste in someone's fridge or the field is equally disheartening. (So disheartening that "it kills you.") This respondent believes that the time and effort put into creating the food cannot be reclaimed no matter what.

Conversely, one producer expressed the belief that waste is the sign of a productive economy: that waste results from an excess of product:

"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)

Saying that "no one really cares about the waste" is another way of saying that what is being grown/produced is hyper-productive. In this scenario, the producer is equating excess with productivity, and therefore an excess of productivity is a healthy economy. This producer

elaborated that the characteristics of natural food make it hard to determine when you will see an excess of product:

“Say we’re growing a pile of tomatoes because the weather has been gloriously sunny and hot and tomatoes absolutely love it. And at the same time all the other farmers are growing a lot of tomatoes and everyone’s growing a lot of tomatoes, so there’s so many tomatoes we don’t know what to do with ‘em... So they probably won’t get thrown out by us, and they probably won’t get thrown out by the market, but they’ll probably get thrown out at the retail side, but then you can’t even blame the retailer for that, it’s just that there’s way too many and not enough being sold, right?” (Producer 1)

Here, the producer is citing excess product as a sign of a healthy and productive economy.

Saying that the weather creates perfect tomatoes to the point where everyone is growing so many of them, the market can’t handle the glut is a true statement. One cannot plan for such events. If everyone were conservative in planting tomatoes, combined with a streak of bad weather, there may be a shortage instead of a surplus. Therefore, this respondent is using the natural characteristics of food and nature to avoid responsibility for waste. The fact that waste be **both** a shame/burden/economic loss, but also the sign of an over productive economy highlights that this sector is divided on the issue. Depending on the stage of the cycle, waste can either be burdensome, or a sign that things are going well. This sector is therefore heavily dependent on others (distributors, retailers, and consumers) to define “waste” for them. Again, we recall the notion of value: if excess product can be sold, it is not seen as a burden because it is a chance to generate profit. With no market to sell the product, food becomes a burdensome “waste”.

Distributors feel that waste is the sign of an inefficient, poorly planned economy, as wasted product is seen as a loss in revenue and profit. Waste is to be avoided to such an extent that there are programs to extend the life of food for as long as possible. One respondent expanded on the ugly fruit and vegetable comment mentioned above:

“There’s a bit of a move a food in our industry, particularly on the vegetable side for some of the larger chains to get involved with marketing products that are basically culls or number twos or misshaped product. There’s talk about them implementing a certain area on the store to sell these

things that there's really technically nothing wrong with, other than that they're unattractive or misshapen, double carrots and all that sort of thing, right?" (Distributor 2)

This desire to continue to sell product even though it may not meet conventional aesthetic standards shows a commitment to turning a profit on behalf of both retailers and distributors. This respondent admits that there's "really technically nothing wrong with [the product] other than the fact that it's unattractive or misshapen." Again, we come back to the notion of what makes a product valuable: is a food valued more for its ability to feed someone, or for its aesthetic appearance? Here the distributor is arguing that instead of valuing outside appearances, the true value of the food lies in its ability to be sold to and consumed by a customer. Therefore, anything that is not sold does not contribute to a healthy economy and is inefficient and wasteful.

Both **retailers** and **food service providers** also consider food waste to be the result of an inefficient, poorly planned economy. Food waste is a loss of revenue and to be avoided at all costs. However, there are other concerns besides not being able to sell the food for a profit. As with processors above, an additional concern may be the actual cost of the disposal of food waste:

"We don't want to be throwing out food because it's very costly to throw out. Organics is very costly to actually put into landfill and also to haul to landfill, so we've been doing everything in our power to get away from that expense... we ourselves don't want food going to landfill because it's a business expense. It's a business cost that we just don't want." (Retailer 1)

Here, the respondent is citing the cost of hauling food waste to a landfill as a primary reason for waste to be avoided. Loss of revenue is not discussed here, but rather the tipping fees of disposal in Ontario act as a deterrent. This respondent may be troubled by loss of revenue from not being able to sell product, but is not addressing it at this time. This is one way to show the dual values that are lost when food is thrown away: first, the food not being sold, and second, the cost of disposing of it. Thus, retailers and food service providers are firmly on the side that waste is the sign of an inefficient, poorly planned economy. Waste for this sector does not create profit, and

is merely just “wasteful” or inefficient use of resources.

Conversely, **NGOs** see waste as a signal of a profitable, or at least functioning economy.

This idea of waste being an inevitable part of the capitalist system was summarized succinctly by this respondent:

“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 excess food as a means of feeding people is the short vs. long term goal of this food redistribution: recall that some authors posit that this is a Band-Aid solution (Caraher and Furey, 2017). In this quote, the respondent is recognizing that because we live in a capitalist society, there is always the drive to maximize profit over equal distribution of resources. In this case, grocery stores seeking to maximize profit will not take the risk of running out of food because they do not want to lose customers. Supermarkets have dominated the cultural landscape since the early 1950s and are now emerging all over the world (Humphrey, 2012). In the developed world, there exists the potential of a constant stream of excess food coming from these stores that social service agencies can repurpose and redistribute. It is therefore difficult to place NGOs on this line of tension. Taken one way, if there is always an excess of food, one may assume that the extra food is a sign of a healthy, productive economy. Taken another way, because the food is not able to be equally distributed, causing the existence of food banks in the first place, the economy can be seen as poorly planned and inefficient. Therefore, NGOs can be placed on the line of tension that waste is both efficient and inefficient.

It may be helpful here to revisit the notion of value: if the food used by these NGOs is considered unfit for human consumption, it can be seen as a “waste” in that the food was originally intended to be eaten, but spoiled, and is therefore unable to be consumed. However, if it *is* still fit for human consumption, the food is no longer a waste but retains value in that it can

provide nourishment to people in need. One must be careful not to conflate the notion that only “hungry” people are worthy of eating food “waste.” This implies that people who are in need are only worthy of food that well-fed people are “done” with. (Another way of saying this is, “beggars can’t be choosers.”) This is problematic thinking that continues to deepen divisions between those who have and those who do not. (For more on the role food banks play in addressing food insecurity, see: Bazerghi *et al.*, 2016; and in the Canadian context specifically: Tarasuk and Eakin, 2003; and Loopstra and Tarasuk, 2015.) There currently lacks sufficient data to suggest that use of a food bank leads to an increase in food security.

Despite these concerns, excess food does have a chance retain value for those seeking to redistribute it, and therefore be an opportunity. Additionally, some NGOs can 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)

Via this respondent, social attention (“the media”) being interested in waste is overall a positive for NGOs, as awareness is always a great first step in coming to a solution. This respondent has found a common language with which to engage people about the issue of food waste and promote their mission, transforming them from “the best kept secret in Toronto” to a more prominent player in the discussion on what to do with excess food. It’s possible that this greater social awareness will help change the conversation around the other economic considerations of food waste:

“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)

Here is highlighted again the notion of what is valuable. While food that can be consumed by humans retains value for an NGO seeking to redistribute it, basic economic principles still carry

the day. Therefore, if it is cheaper to dispose of food than to find the logistics to distribute it properly (cheapness can be measured not only in dollars but staff time, shipping logistics, etc), NGOs will fall on the list of priority. This exposes a key tension between doing right by people and the environment and still trying to make a profit in an industry that is characterized by slim margins.

Finally, **waste management companies'** entire industry is predicated on existence of a waste stream. Perhaps even more than any other sector, waste becomes a valuable resource from which profit is derived. As has been mentioned elsewhere, waste can have a value: waste as mere "waste" is not useful, but in this industry, waste becomes a resource. Thus, a tension arises: contrary to most other sectors, waste management companies see waste as a sign of a healthy and productive economy, as waste keeps them in business.

It is clear how this sector derives economic value from collecting and processing waste. However, some respondents shared with me that they know this is not the case for their clients. One respondent spoke to me about how difficult it is to incent someone to change their wasting behavior if the cost of disposal was cheaper than recovery:

"It is far cheaper in most circumstances for waste to be disposed of than it is for it to be dealt with, processed into a new product, or a raw material. So. that's a gap that needs to be overcome. And there's various different ways you can get to that issue. Specifically in Ontario, it's very difficult because we have a pretty open border with the United States, and tipping fees in Michigan and New York, specifically Michigan, are cheap, so right now we understand that the rates are sub-\$10 a ton, it makes it pretty difficult to be able to compete with that. As a result, you see a lot of waste materials going down to Michigan." (Waste Management Company 7)

Again, we see a tension arise around the notion of "value." It has already been demonstrated that disposal of food waste is costly due to its weight. Ontario's unique geography makes it easier and cheaper to dispose of this heavy waste product across the United States/Canada border. This cheap cost of disposal may not necessarily *drive* more waste, but it does translate to less of an impact on the bottom line of companies who pay disposal fees. Waste here has the potential to

create a healthier economy in places outside of Ontario, where landfills and processing facilities may create new jobs and opportunities.

To conclude, those sectors whose primary purpose is to derive profit from food, or recapture value from it by redistributing excess food, view waste as the sign of an inefficient or poorly planned economy. However, those sectors who derive value from waste, such as waste management companies, find that their entire existence is predicated 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. This explains why some producers and processors may consider excess food to be the sign of a healthy, productive economy, depending on the context.

3.3.2 Line of Tension 2: Environmental Protection/Economic Growth

As noted, traditional policy initiatives regard waste as an end-of-pipe issue, and rarely focus on environmental protection. This classification of waste as something that is left over, or inevitable and something to be treated of “afterwards” is a hallmark of early ecological modernization thinking (Hajer, 1995). However, recent policy developments, particularly Bill 151, encourage a different kind of thinking more in line with extended producer responsibility (see notes on this above). With this shift of thinking, the psychological components of waste (as explored heavily by discard studies) are illuminated, and waste is now something to be thought of ahead of design of a product, rather than after.

This shift in thinking has facilitated more of a mediation between two distinct realms: the economy and the environment. In our current era of global climate change, some see it as irresponsible to chase a profit without regard to preserving the environment. Instead of treating each component separately, current ecological modernization posits that one can grow the

economy and preserve the environment at the same time. The traditional inclination to separate the two, however, are what prompted the second line of tension.

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



*Neither: Producers

For **municipalities**, collecting organic (food) wastes is an opportunity for environmental protection. Thus, municipalities can be categorized as cautiously optimistic, with a slight ecological modernist bent. Although not as zealous as the provincial government’s belief that technology will both protect the environment and grow the economy, some municipalities do link the environment and economy, and do not prioritize one over the other. When speaking of a plan that was developed in their municipality a few years ago, one municipality had this to say:

“I think as we developed a kind of business case for how much actual reduction could result as trying to address food waste... and then also the savings in cost to not have to collect and process organic material that was actually food waste... it sort of caught on pretty quickly with senior management and council.” (Municipality 8)

Food waste here, like recycling waste above, is being transformed from something that has value, this time through cost savings. By not having to process this waste as garbage, this municipality was ultimately able to reduce its tipping fees, which can range in Ontario based on location. As the provincial government has noted, landfill space is increasingly at a premium, thus highlighting the need to divert away from landfill and repurpose waste as much as possible.

Another way to retrieve value from waste is to turn it into a new material: compost or digestate. Here again protecting of the environment can be linked to a positive economic

outcome:

“We still see a need for it, you got environmental issues, organics going into the landfill, especially now with climate change, there’s opportunities to turn the organics into compost, which is a valuable amendment to soil... More and more municipalities are now looking at anaerobic digestion, looking at the energy that’s in their food waste, capturing that energy and then using the digestate as a fertilizer product. It’s all about taking the material and bringing it to its highest and best use. And this has all been happening despite the lack of legislation to do so.” (Municipality 9)

This respondent is directly making the link between waste reduction and climate change. Citing multiple ways to retrieve value from organic waste: composting, digestate, and promoting it as an “energy” saving exercise may be a key to reimagining waste and promoting it as a valuable alternative, and may help ease the aforementioned tensions between municipalities and producers, as both parties are driven by economic concerns. Yet this respondent highlighted another tension that was found throughout my study. When they note, “this has all been happening *despite* the lack of legislation to do so,” they are alluding to both a pride in initiatives taken by municipalities, as well as a distrust in the effectiveness in provincial legislation. Recall the lack of uniform legislation that Bill 151 is attempting to correct with its overarching strategy. This respondent was even more explicit when discussing end markets for organics:

“There’s an opportunity under the act to have organics bans in landfills, but again, the minister’s gotta be careful when he looks at things like that because he’s gotta make sure that there’s a market for all the organics before he looks at a landfill ban. It’s very good to put a ban, but if you have no options for the material, what do you do with it?” (Municipality 9)

Here the respondent is acknowledging that while some municipalities may have plans in place to transform organic wastes into valuable products like compost and digestate, it may not be possible to implement a *province*-wide ban on organic materials without thinking of the implications for each municipality. A one-size-fits all approach therefore might not be possible in a large geographic area such as Ontario. Furthermore, as has been shown with the blue box program, it can be difficult to derive value from certain packaging materials if there is no end market. So too exist problems with an “end market” for organic wastes.

Finally, municipalities acknowledge the “zeitgeist” of food waste and their role in promoting reduction of waste among their constituents. This type of responsiveness to the household is a hallmark of both the municipal waste management side and the public health side of the municipality.

“I wouldn’t say that food waste is sexy, but ... it has the potential to be this new hipster thing... With Loblaw’s and their ugly produce, there’s a lot of potential as public health to use those new innovative ways of using food waste, [to] partner with people who might need those sorts of resources.” (Municipality 3)

This respondent is particularly highlighting partnerships that can be created between other sectors and the public health sector on looking beyond aesthetics of food (“ugly produce”) to see that it still holds value as an edible product. Furthermore, the initiative cited here by Loblaw’s has the price point of these products as lower, and therefore more accessible to customers. Transformation of waste into something of value, then, does not end at the municipal or business level, but can also be incorporated into the household level as well.

While municipalities may think of waste as a sign of wasteful economy, they are still required to continue to collect waste by the province. *How* they decide to collect and process the waste is entirely up to them, so those municipalities that are more environmentally inclined may choose to implement an organics collection. The cost of implementing such a program is not currently funded by the province and is quite costly. Therefore, each municipality must decide for themselves, and based on their budget, if they can sustain such a cost. Thus, municipalities prioritize both the economy and the environment when considering what type of waste collection program to implement.

Processors are overall in favor of environmental protection. Like some producers and retailers, they see environmental protection as a way to improve their bottom line. Many of the respondents I spoke to stressed the importance of carbon reduction:

“It [Waste reduction] reduces costs, it’s environmentally friendly, it reduces the overall carbon footprint.” (Processor 1)

This processor is in line with what the province is proposing with Bill 151: that waste reduction and reuse can lead to both lower costs to a company and a better environment overall. This link is not an insignificant admission by a member of a sector that has traditionally been characterized as being concerned with only profit. But recent understanding of the role that waste plays in climate change and the economic benefits that can be recouped from reduction of waste is an important concept. One processor who surveyed their membership recently reported the following:

“The most interesting thing was more and more [of our members] 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)

This furthers the idea that a culture shift is occurring. Rather than being left behind by legislation, several of this respondent’s members are “applying a climate change lens to **all** their decisions,” and the hope is that it’s not something that’s fleeting but a longer-term shift. While it would be a stretch to say that processors prefer to protect the environment over making a profit, the link between a healthy environment and a productive economy is being considered. This places processors as advocates for both the environment and the economy, giving them an ecological modernist bent.

I hypothesized that, similar to some retailers, **producers** would state that it is possible to both protect the environment and grow a profit. I supposed this because most producers are connected to the land to grow their product and would not wish to privilege one over the other. However, I did not receive comments that supported this. Rather, I found that thinking of the environment in purely static terms as an either/or against the economy does not give a full picture of this sector. This simplification was rendered problematic by one producer:

“The capacity to produce is always larger than the known or anticipated demand, and the reason for this is that very rarely does nature cooperate in the sense that every growing region will benefit simultaneously.” (Producer 1)

This respondent is evoking the natural elements of food production, stating that nature “very rarely cooperates” in a way that will lead to profit for all producers. Because of this, it is hard to prioritize economy over the environment, or even to compare the two. Additionally, this statement does not include a discussion of responsible resource use or how to balance the large capacity to produce with fluctuating demand. Recall that discard studies opens the “black box” of waste by examining what makes a product “become” a waste. Some discard scholars (Watson and Meah, 2012; Van Bommel, 2016) are particularly interested in the materiality of waste. The biological materials that give food its nutritional content, also make it more prone to becoming “waste”. The producer above is acknowledging these living characteristics, and later went on to elaborate that “plants are not robots,” implying that they cannot be managed or contained like other types of products. Therefore, my data does not suggest that producers can be mapped on a line of tension in prioritizing either the economy or the environment.

Neither of my two **distributor respondents** mentioned the effect of waste on the environment. This is not unusual as most distributors in North America cover large distances that require the use of trains, planes, trucks, and ships. A recognition of “food miles” (Paxton, 1994), or the amount of distance food travels from source to store to one’s home, may show that this sector does not place much value on preserving the environment. However, my respondents did not indicate either a positive or negative feeling about preserving the environment. This places them less as ecological modernists and more as firm capitalists, concerned primarily with making a profit.

Taken together, the two sectors of **retail** and **food service** have similar concerns of maximizing profit in a competitive marketplace. However, some in this sector may feel that

protecting the environment is the “right thing to do,” and can be done in concert with turning a profit. This type of thinking has developed over time and speaks back to the social attention that the effects of food waste on the environment has received in recent years. One retailer with a background in sustainable development noted that linking food waste and climate change has had a real impact on how they run their business:

“...back when I first started studying sustainable development... the issues were different: the issues were like the hole in the ozone, and acid rain, and people just saw them as kind of environmental issues that could be solved. But it’s a whole other story now, it’s like climate change is not an issue to be solved, there’s no such thing as climate change mitigation anymore. **We cannot mitigate climate change.** It’s now climate change **adaptation.** We’re going to have to learn to adapt to our new climate.” (Retailer 1; emphasis added)

This retailer is highlighting the trajectory of ecological modernization succinctly: retailers (along with most other sectors) are now understanding that we cannot continue to expend natural resources if we are to continue living well on this planet. Not only that, but climate change has reached beyond a level that it can be “solved” and must now be adapted to. Being a conscious capitalist (Mackey and Sisodia, 2013) means being attuned to the triple bottom line of people, profit, and planet. Therefore, it can be said that this retailer in particular would rather not choose between environment and the economy, but believes that both can be preserved. In fact, this respondent may say that the *only* way to grow profit in the current climate is to be conscious to the environment. To willfully waste food is to contribute to climate change, and provides a chance to lose environmentally-minded consumers. This respondent goes onto explain:

“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)

Like the expression “a rising tide lifts all boats,” this respondent is highlighting their store’s commitment to working to adapt to climate change as something that happens outside of an arena to gain customers. Whereas most retail and food service providers are trying to create the

most profit by having the most customers, waste is again seen as something that is not valuable or value-add to a company. Instead, it is seen as a place for opportunity to work together to reduce the overall waste footprint of the industry. When the respondent says “there’s no such thing as collusion in trying to divert trash”, they are also expressing belief that “good” technology that leads to overall waste reduction should be shared by all and not hoarded or a way to cheat others retailers. This optimism in technology to solve environmental problems is a hallmark of ecological modernization, and places retailer and food service providers similar to the province in believing that one does not have to choose between the economy and the environment, but can have both. Because of the small sample size of retailers, I was unable to determine if this was a commonly held belief. In reviewing corporate social responsibility (CSR) documents for other retailers, a similar commitment to preserving the environment was expressed. However, it is important to note that this is because CSR documents are often “front facing” documents that go out to the public. They may act as free publicity in that the company can pick and choose what statistics to highlight. If they wish to highlight their commitment to environmental protection, they can do so under the guise of this informational document. Just as waste can be viewed as an economic loss, so too will no company be eager to admit their role in environmental degradation that results from wasting food.

NGOs fall similarly along the line of the provincial and municipal governments in thinking that one does not have to choose to prioritize economy over the environment. As mentioned, one of the NGOs was primarily focused on the environmental impacts of waste. Like some municipalities, this NGO readily acknowledged the link between reduction of waste and climate change. Unlike some municipalities, however, this respondent wanted to caution that certain waste reduction techniques may exacerbate climate change:

“I get nervous when people talk about climate change and waste... the fact that it [Bill 151] is

acknowledging the link between waste and climate change is **great**. But I get just a little bit nervous when people talk about waste and climate change because usually the first response is great, let's burn garbage because that stops climate change because we can use it as fuel and an energy source. But that's the worst thing you can do with waste because you actually save a lot more energy and have a much bigger climate impact if you recycle or compost it in the first place..." (NGO 1)

This respondent is cautioning that not all forms of waste reduction are equal, and that while burning garbage does indeed keep it out of a landfill, the resulting emissions from the burning of said garbage are too much to consider it a viable option. As incineration and disposal to landfill are lowest on the food recovery hierarchy, this respondent is seeking alternatives to disposal that both protect the environment, and have a greater economic impact than burning garbage. To this respondent, prioritizing the environment over the economy is clear, but as will be shown shortly, other NGOs believe that economic opportunities also can result from promoting alternative uses for waste. NGOs whose primary purpose is to redistribute food did not comment on the tension between the environment and the economy as affecting them. This may be because NGOs are not out to make a "profit" and therefore may feel that they don't have to choose between the two. Furthermore, these NGOs are primarily in the business of food redistribution. They are sometimes considered "the last stop" before food goes to a landfill. One NGO respondent shared an anecdote about food for their organization being labeled as "for the dump", implying that they are on the same level as landfilling. While this respondent was not in favor of this classification, many of my respondents noted that giving food to NGOs was preferable to landfilling, when possible.

Environmental protection and **waste management** may initially seem like they conflict with one another. Traditional forms of waste management include landfilling, which the province of Ontario has already stated is not a long-term solution to the problem of waste. However, since the goal of waste management companies includes extracting as much value from waste as

possible, so it follows that extraction of value from the waste could lead to less waste going into a landfill. This reduction of waste to a landfill could lead to a cleaner environment. Furthermore, many of the products created by waste management companies such as digestate and compost, may enhance the environment, and help grow new food. It is in this way that waste management companies can be shown to be in favor of both the economy and the environment, not prioritizing one over the other.

Many of the thoughts about the environment are driven by this sector's clients or members (like some food retailers):

“Typically our position on waste is that there's a drive by the members: most of the members understand that the disposal option is drying up... 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)

Here the two concepts of economy and environment are presented simultaneously: to create a better economic output for themselves, this respondent's clients are looking to preserve the environment by adopting principles of the circular economy. Another respondent concurs:

“We know the economic cost. We know the climate is going to cost is \$1B per year. So when you're reaching this level of dollars, definitely, you will see in the next couple of years, how much it's going to cost not to act **now**.” (Waste Management Company 1)

Again, the link between not caring for the environment is expressed in an economic term: \$1B per year. This respondent believes that cost of not acting to preserve the environment will start (if it hasn't started already) to become unmanageable, and thus drive people to look to more both environmental- and economic-friendly options. This type of thinking places waste management companies as full ecological modernists: using technological innovation to drive the market and preserve the environment.

In sum, many of my respondents were in line with the provincial government that both the environment and the economy can have equal priority, or do not need to be prioritized one

over the other. Instead, reduction of waste is seen as a cost savings exercise by many, and has the added benefit of being environmentally beneficial. Again, those who derive profit from selling and distributing food are loath to have waste, as it negatively affects their bottom line. In addition to sustaining a cost of a “loss” that occurs from not selling a product, the cost to dispose of a waste can be significant. Less waste can therefore mean less profit loss, and has the added benefit of preserving the environment. However, it is beyond the scope of my analysis to say that all respondents who sell food for profit think of the environment first or even equal to that of creating a profit. It may instead be a nice or unintended consequence that “saving the environment” also leads to a profit savings.

That being said, a focus on sustainable business practices and “conscious capitalism” (Mackey and Sisodia, 2013) had some respondents reporting that saving or even gaining money can be achieved equally with preserving the environment. Some respondents directly made the link between preserving the environment and creating a profit through the chance to turn food waste into a value-add material such as digestate or compost. Acceptance (in Canada) about the realities of climate change may also play a part in various sectors’ desire to align environmental protection with economic benefit. Denying that climate change exist or that one does not impact the environment through one’s actions may be considered a turn off to future customers. This was noted in some respondents saying that preserving the environment is “the right thing to do.” This commitment to preserve the environment as a means of growing the economy is reflected and promoted by the province through Bill 151.

3.3.3 Line of Tension 3: Financial Incentives/Bans or Fines

As noted above, government intervention in the environment has historically relied on command and control mechanisms for achieving certain environmental targets. Ontario intends

to break from this tradition with Bill 151. The legislation leans heavily on the concept of extended producer responsibility to find creative ways to repurpose waste, or to design products that are easier to reuse and recycle. Because it is difficult to “recycle” food waste like one recycles packaging, there are a variety of legislative tools that governments use to reduce the landfilling of organic materials. Ontario already supports legislation called the Donation of Food Act (discussed above), which waives liability of donors who redistribute product to social service agencies. Currently, this donation does not extend a tax credit to retailers or food service providers who donate the food, as it does in the United States (see the Bill Emerson/Good Samaritan Act, 1996). However, Ontario farmers who donate whole products do receive a tax credit of 25% of the value of fair market value of the food; but this does not extend to other sectors. (This legislation is the Farmer Donation Act, part of the Local Food Act of 2013.)

Other governments have tried to ebb the flow of organic material to landfills by instigating organics bans (see Metro Vancouver), or increasing tipping fees for organic wastes. Recall that Bill 151 is still quite skeletal, and does not invoke these in the text of the law, but the Strategy does make mention that an organics ban “may” occur. This “stick” (fines/bans) or “carrot” (incentives) dichotomy lent itself nicely to a third line of tension. A key assumption under this line of tension is that producer/retailers/distributors are the main cause of waste, which was not an assumption shared by all respondents, as will be illustrated below.

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

As noted above, when it comes to non-organic wastes, there exists a serious tension between **municipalities** and producers, as municipalities often feel unfairly compensated for their collection and maintenance of the curbside recycling program. This distrust can be expanded to food wastes as well:

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

“I think there’s a big role in this to play by food retailers, in terms of how they sell stuff to people and how they sort of present things.” (Municipality 8)

These respondents are portraying retailers as knowingly over purchasing food to present to customers, with little regard to the consequences. While many respondents across multiple sectors readily acknowledged large percentage of food waste that occurs in the home, these two municipal respondents noted that this type of food waste does not occur in isolation, and therefore originates a step before, in the store. Appearances of plenty are used to lure customers in, without regard to the end result (large amounts of waste). Even if the food being wasted at the store was “properly” diverted by being donated to hungry people (the second section of the food recovery hierarchy), recent studies (Caraher and Furey, 2017) suggest that this type of disposal is merely a Band-Aid solution that does not address root causes of unequal food distribution.

Further down the food recovery hierarchy it is suggested the opportunity to turn food waste into compost (also discussed above, as an opportunity). However, this too can be problematic if those using a compost bin find that it can absolve them of responsibility in some way (see also Qi and Roe 2017, under review). Another municipal respondent expands:

“I think that we need to convince industry, and even convince people that the composter isn’t there for you to overeat and overspend and for companies to over purchase and not keep on top of their processes... but to actually get people to think in another way.” (Municipality 1)

Recalling that the first level of the food recovery hierarchy promotes source reduction, this respondent is interrogating the system as a whole, with a desire to have companies “keep on top of their processes” by looking to reduce waste at the order and procurement stage, rather than end-of-pipe. This emphasis on designing waste reduction into the beginning stages of a process places municipalities along the continuum of ecological modernization, which also shifted away from end-of-pipe thinking in the 1980s to a more design oriented solution (Huber, 1991).

So it follows that municipalities believe that stewards/ICI sector should not be incentivized to reduce waste, but rather be penalized for both producing it, and for not thinking about a solution when designing a product. Like the province, the municipalities are strongly in favor of extended producer responsibility and wish to see concerns for the end of life of a product built in at the design stage. Most of these concerns, again, stem from the economic cost of collecting and processing wastes.

“There should be some responsibility on the producers, we’re supportive of the extended producer responsibility framework, so for it to be all the municipalities to front the cost is difficult, because as a region/municipality, the first thing that residents say is that taxes are too high... So to provide all these services, [and] to try to do it cost effectively, is difficult.” (Municipality 11)

“The beauty ... of this new waste management legislation is it now directly connects producers and it’s directly the individual brand owners who’ve gotta figure it out. The onus is all on them... it puts the ownership squarely on them so that they’re connected to it.” (Municipality 8)

These municipal respondents seek to close the disconnect that occurs once a product leaves a

factory and is no longer the responsibility of the producer. Again, this is more complicated when discussing food waste, but barring a solid direction provided from the province, many municipal respondents were reluctant to comment on what they thought would happen with organic waste. When asked specifically about tax receipts for donated food (as is practiced in the United States under the Bill Emerson Act), a municipal respondent did have a few words:

“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)

The above respondent’s assertion that giving a tax credit is “ridiculous” may stem from fears (see again Caraher and Furey, 2017) that food donations do not necessarily reduce food insecurity. Furthermore, there is a concern that providing a tax incentive may encourage the “dumping” of food onto food banks.

While it has been shown that municipalities at times do not trust the ICI sector, as well as prefer fines over incentives as a way to further reduce waste, there are hopes for resolving the tension that may exist between the municipalities and the province, as noted by this respondent:

“I think I would like to see the province take on some kind of provincial campaign... I think there’s a role for the province to play in trying to get the message out because whether you have an organics program or not... everyone has to buy food, it’s just a basic fact. I think that type of campaign with some provincial dollars and backing behind it could make a really big impact.” (Municipality 8)

This call for a consistent, provincial-wide campaign is precisely what Bill 151 hopes to provide. Lack of consistent legislation was noted by all respondents as a barrier to reducing food waste, and having a provincial-wide education campaign has the potential to increase the legitimacy of any laws that do pass. This can be more succinctly summarized as “no ban without a plan”: if there does happen to be an organics ban in place, there needs to be somewhere for the waste to go. Municipal waste collectors want to ensure they’re not left with more work and less resources as the result of a hastily implemented ban. Either way, through bans/fines, or incentives, the

municipal sector wishes for the provincial government to take a firmer stance in going after retailers and other producers of waste.

Conversely, and in line with their earlier expressed wishes for the government to “get out of the way” of market innovation, **processors** are strongly opposed to government intervention on the issue of waste:

“Adding regulations is just going to add another added cost and burden to an already very strenuous, competitive environment.” (Processor 4)

Citing the market as “strenuous” gives insight to what some of the producers were also feeling: squeezed both by the government to create a certain kind of product within certain specifications, as well as squeezed by retailers or distributors who are also trying to make a profit. This respondent is equating regulations with fees or fines, although that may not always be the case. Instead, many processors believe government intervention should be employed as a way to shift the market, setting benchmarks for reduction of waste, but not getting involved in the ‘how’ of waste reduction.

“What we would like to see that support more voluntary and incentive based programs, to motivate food waste reduction action... This is what we’re standing for: collaborative, voluntary, incentive-based programs and practices to motivate food waste reduction, incentives to really look at the root cause. 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)

This respondent is in favor of government funding being used to find the root causes of waste and quantify it for the processor. Processors can then take the data and decide for themselves what solutions are most applicable. This view of government is that the government should be more of a neutral, fact-finding entity rather than an enforcement agency. Indeed, the provincial government may already be taking steps to initiate this kind of scenario by promoting extended producer responsibility, giving diversion and reduction targets but not specifying exactly how to meet those targets. However, it is worth noting that this hands-off approach as advocated by this

respondent illustrates a tension between the desires of a free market economy and the government's attempts to create a more "circular economy." As discussed, a circular economy can be seen to be at odds with a traditional economy, and thus the provincial government's attempts to promote the values of both the economy and the environment may not always be in line with how players in a traditional economy operate.

Producers and the **research organization** both cited both the government and the market as the primary sectors responsible for creating waste. As such, they do not consider themselves to be primarily responsible and are opposed to "sticks" such as fines and bans to regulate their behavior. Instead, all four producers cited government regulations that they perceived as onerous and wasteful, particularly around aesthetic standards for food:

"The level of waste can be fairly significant...mostly they're just culled because they just don't look good." (Producer 1)

Produce is under strict regulation by the Canadian Food Inspection Agency, as are market standards. Although it is beyond the scope of my research to interpret the nuances of the CFIA, these aesthetic standards have the potential to generate a lot of waste because organic products (produce especially) cannot be controlled as tightly as inorganic products. As mentioned above, there is a movement to start accepting what are known as "#2s" or naturally imperfect produce to be resold. However, since this practice is not yet widely adopted, and consumer preference tends to lean towards perfect looking produce, anything that does not meet the legislative standards set out by the CFIA and the aesthetic standards as set out by the market has the potential to be wasted.

Producers (and the research organization) were therefore in favor of loosening restrictions placed by the CFIA to reduce waste:

"What does the legislation say about that? Thou shalt not throw away an apple if it's got a mark on it? Maybe it should, because there's nothing wrong with those apples, and yet we know we dump tons of them every year." (Research Organization 1)

This respondent can be shown to support an overhaul of legislation that values a product despite its outward appearance, which lends credence to the fact that it's ultimate value lies in whether it can be sold to and consumed by humans. Saying, "there's nothing wrong with those apples" disregards the outside appearance of the product and calls for a more in-depth examination of where the value of the food lies (it's nutrient content rather than its outside appearance). Thus, producers feel a dual set of pressures from both the government and the marketplace to produce natural food within a confined set of characteristics. Food that does not possess these characteristics is rejected by the government and the market, therefore it cannot be sold, and is ultimately wasted.

To curb the amount that is wasted, some producers feel that a government-driven ban of organic material to landfill would help incentivize retailers to waste less and re-evaluate the value of the product:

"Much how the imperfect food wastes at the producer level need support and incentive, so I think that those retailers also need support and incentive to do that... If they're going to be regulated as such, there needs to be that support to get this food to where it needs to be..." (Producer 4)

Like municipal respondents, this producer is hoping that there is no ban without a plan. As they've noted, an increased interest in the "imperfect foods" has led to a greater source of revenue for their own sector, this respondent is in favor of incentivizing retailers to reduce less once a ban is in place. This may be because the livelihoods of producers and retailers are deeply linked and rely on one another to survive.

Like producers, **distributors** bristle at the characterization that they are primarily responsible for the creation of waste and therefore, should be the ones primarily regulated. Instead, this sector places blame on vendors for both being responsible for the production of waste and failing to treat it properly. When asked specifically about tax incentives given to

producers to reduce waste, the respondent noted:

“For sure, the big international chains wouldn’t want to get involved, right? They would just take the write-down, and a lot of times they just push it back on the vendor. Just dump the stuff and it goes to the vendor, the vendor winds up having to pay for it, and it goes into the cost of goods.”
(Distributor 2)

Here is an interesting double denial of responsibility: not only is the respondent placing themselves as not responsible, but suggesting that other sectors may also wish to deny responsibility as well. This can be achieved by pushing the waste further down the chain, and “into the cost of goods.” It’s hard to prove that these practices are happening, but it also illustrates a tension: regulations that are created to incentivize people to “do good” like donate excess food, may backfire and not only have edible food fail to go to those in need, but also increase food costs overall. This can be connected back to the NGO respondent above who noted that regulations may justify “bad behavior.” Again, the small sample size of distributors made it unable for me to place them as either in support of fines/bans or tax incentives. Distributors mainly commented on how other sectors would react to such legislative interventions.

As stated above, **retailers** and **food service providers** are driven by economics, and highly sensitive to the consumer market. As a result, this sector may feel trepidation when considering government interventions and regulations such as organics bans:

“One of the things that is obviously important to us, is that as more information becomes available, is that I would be looking at it going, how does this impede our ability to operate? Does this make it economically challenging for the operators?” (Food Service 3)

Rather than being standard setter for the industry, the government is characterized here as an “impediment to operations” and therefore a barrier to profitability. This may be another reason why this sector of respondents was unwilling to comment specifically on how government intervention could be balanced with returning a profit.

However, some in this sector do indeed see the government as a standard setter:

“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)

This avoidance of being “the first guy to do it” shows that there is a risk involved in trying to be more sustainable. It may lead to an overall reduction of waste, which will lead to a cost savings in time, but the potential of *immediate* disruption of profit is too much. If the gains are unknown in terms of when they are coming and how beneficial they will be, (noted here as “trials” and “bumps in the road”) a restaurant may have even more trouble convincing top management that the new technology or process is a good idea. Not being able to concretely demonstrate the value of a certain practice is enough to halt the process. Therefore, rather than pioneering certain technologies or processes, some retailers may find it more comfortable to step back and follow rules or laws as set out by the government. These laws would be implemented province wide, and thus other retailers and food service providers would be subjected to the laws equally.

Therefore, we see two schools of thought emerging from this group: while some may view government mandates as necessary to move everyone in the field up to speed (“carrots”), others may view government intervention as onerous and cutting into the bottom line (“sticks”). It is therefore difficult to state at this time whether there is uniform consensus in this sector about government as the main promoter of responsibility, and the form these “tools of responsibility” (incentives or dis-incentives) should take.

NGOs responded that a provincially-driven banning of organic wastes could lead to a variety of opportunities:

“I think what would happen if you did certain limitations is that landfill rates would increase for organics, and by increasing those rates, people will naturally look for alternatives. And when they do that, then they establish a market for those alternatives, and then you see pop-up companies with innovative solutions happening.” (NGO 3)

Here again, NGOs are interested in promoting the idea of value. Because their main priority is to

distribute food (both “regular” and “reclaimed”), implementation of organics bans or limits on what one can dispose in a landfill is a way of reframing excess food from waste into resource. Being denied the option of simply putting organic material in a landfill, “people will naturally look for alternatives.” It is shown here that the driver of the ban should be a higher power, such as the provincial government. Overall, NGOs do not believe that the market should regulate itself, but rather needs direction from above. However, once the ban is in place, NGOs are perhaps even more ecological modernist than municipalities in the belief that “innovative pop-up companies” will fill the void. Whereas municipalities have a more measured and cautious approach to desiring the province to both implement and enforce legislation that controls excess materials, the following respondent is optimistic about the market’s innovative ways to reclaim waste and turn it into a valuable item. This may be because food redistribution NGOs themselves are innovative, and rely on the market to continue supplying them with excess food to redistribute. Thus, some food redistribution NGOs may have fruitful partnerships with the for-profit sector. These NGOs are already entrepreneurial in their use of food waste:

“There have been some people who respond and say we can’t have an organics ban and we can’t force people to keep food waste out of landfills unless we have alternative place to send food waste, organic waste, but frankly... I think by creating a regulation like that, I think that it actually helps build up the local supply of organics processors.” (NGO 1)

In this quote, it can be shown that some NGOs are both trusting of the government to take the lead on reducing food waste, but also with the market to find homes for the resulting excess product. Similar to the previous respondent, this person would like to see actions taken by the government, and still trusts that the market will then open up for innovation to occur, which is a tenet of the ecological modernist perspective. Thus, while most NGO respondents that I spoke to consider the ICI sector as primarily responsible for the creation of waste, they also consider the government as responsible to create conditions that make it less economically favorable to waste.

Not all NGOs have faith that the government will be able to “solve” the problem of waste via legislation, however:

“It depends on how good the legislation is. There’s some really shitty legislation out there that does nothing. It’s nice in theory but it doesn’t work in practice. If it did work in practice, then we wouldn’t need food recovery operations, but if it doesn’t work in practice, then it wouldn’t affect what we’re doing at all. On goes the waste, right? ... I think about France not letting businesses waste food... they never made it clear whose responsibility it was to give the food, or get the food, or deliver [it]... You *know* it doesn’t just magically appear at a community organization... And if anything, it’s more justified now than before. Because there’s that legislation there, they [the company] is like, ‘Well I did offer it to a community organization but they can’t come get it, sooo....’ Like they feel like it’s more justified.” (NGO 6)

This respondent is asking: can governments be trusted to follow through with law enforcement?

Furthermore, this respondent is cautioning against people taking advantage of a situation: the company is “justified” by saying they followed through with a law but were unable to find a home for their excess food and therefore can claim no more responsibility on the matter. This denial of responsibility or minimization of one’s role in the food waste problem surfaced time and again in my research. Those who critique the legislation say that it remains skeletal. Many sections are thin and use such language as “may occur” to compel action by different members of the food value chain. With the “how” of the legislation left for regulations that are not created, there is a chance that effective reduction of waste will not occur. As a result, there is very much a tension or disconnect between the theory of a law and its practical application. Overall, NGOs can be seen as in favor of stronger government intervention as a way to reduce waste, through the “stick” of fines/bans. This sector does not trust the market to self-regulate; thus, the government must lead the charge to reduce food waste. This viewpoint was echoed by waste management companies.

While **waste management companies** believe that market innovation will both protect the environment and grow the economy, that does not mean that they believe such an action will occur from the market spontaneously. Instead, this sector felt strongly that it was the role of the

government to “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. This sector does not wish to wait around for the market to decide what to do with a product, but rather promotes the government to take the lead. As noted, many respondents in this sector thrive by using waste as a resource, whether it be digestate, compost, or recycled product. An example was given to what the government is doing to promote alternative types of transportation:

“If you want to draw a comparison, the way that the government is incenting electric vehicles under the climate change act, so they’re redirecting the market, they’re restructuring the market by injecting money.” (Waste Management Company 6)

This sector therefore is strongly in support of provincial legislation that will help redirect materials to their facilities. They believe in a strong government to restructure the market rather than letting the invisible hand of the market to come up with its own incentives. While this may appear to be a hardline approach to producers and processors in not trusting them to spontaneously create processes that drive more material to market, this is not necessarily the case. Rather, respondents in this sector are in line with processors in a few ways regarding implementation:

“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)

Here it can be shown that once the benchmark is created, designating the precise steps one takes to achieve the benchmark is irrelevant. This is characterized by “I don’t care how they get there.” In fact, this sector was the only one that expressed trust that the government could implement and enforce requirements to divert more product away from landfill. This trust could stem from

the fact that waste management companies' primary business directive is to recapture as much value from waste as possible. This dovetails nicely with the main purpose of Bill 151, which is to return the values that are created from waste back into the economy. Thus, waste management companies can be shown as firmly in line with provincial government on who is responsible for the treatment of waste and how they are expected to treat it.

Overall, and similar to the previous lines of tension, those in the business of selling food for profit are opposed to anything that will "eat away" at their bottom line. Sectors such as producers, distributors, and retailers prefer the market to be driven by natural economic processes, rather than the government. They are therefore opposed to "sticks" such as bans or fines, and prefer "carrots" like tax incentives to drive reduction of food waste. Some respondents noted that they would donate food even without the chance of receiving a tax incentive, which relates back to the previous line of tension as environmental stewardship as "the right thing to do." On the opposing side of the line, NGOs and some municipalities are more in favor of bans and fines, as they do not want to be the ultimate "dumping ground" for waste materials which may result from excess food being donated to them in order to receive a tax credit. The provincial government has stated through Bill 151 and its assorted strategy documents that it is in favor of a mix of both types of financial tools (bans, fines, and incentives) but as of yet, no regulations have been put in place to that effect.

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 feel that they are not responsible for creating the majority of food wastes. This is backed up by Gooch and Felfel (2014) who place the most amount of food waste at the household level (close to 40%). Therefore, because the sectors I interviewed feel that they are not responsible for creating the majority of waste, they may feel

that 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, it can be shown that how one feels about who is responsible for the creation of waste, determines how one feels the how the waste should be treated. Furthermore, if one feels that the role of the government is to have a hand in the marketplace, so it follows that one would be in support of financial levers such as fines or tax credits.

3.3.4 Line of Tension 4: Responsible Resource Use/Food Safety

Responsible resource use refers to the practice of keeping food out of landfills. It fits well with the idea of the circular economy, for if one is to use resources responsibly, so it follows that there will be less waste. Taking ownership of one's waste behaviors was a tricky proposition for many of my respondents, with many avoiding the word "waste" or asserting that they did not create waste in their sector, because waste is equivalent to loss of profits. This reluctance or avoidance to claim one's waste behavior is a characteristic of risk society (Beck, 1992). Risk society explores how society responds to a risk or a perception of risk, and steps they take to protect themselves from unnecessary risk. Discard scholar Zsuzsa Gille (2013) expands upon Beck's theories and applies them to global food waste regimes. Gille contends that food waste is the result of a complex series of social interactions between members of the food value chain. Recall Gille's dichotomies to describing waste: "efficient/inefficient; useful/useless; order/disorder; clean/dirty; alive/dead; fertile/sterile" (pg. 38). Other scholars (Lundqvist *et al.*, 2008; Parfitt *et al.*, 2010) have noted **where** in the value chain waste occurs in developed countries as opposed to developing countries. But Gille takes these observations a step further and posits that the language about **what** waste is and **how** it should be treated also differs in

developing and developed countries.

Many of my respondents confirm Gille's characterization of waste as useless, dirty, signifying disorder; something that is primarily associated with carelessness or improper planning on behalf of a retailer or consumer. This was evident as members of different sectors went to great pains to distance themselves from their waste, giving alternative definitions to the word waste (such as "loss" or "product that isn't moving") or lengthy explanations as to why they don't even have food waste. The field has been set by the provincial government to characterize waste as something undesirable that leads to a loss of profit and a threat to the environment through the creation of Bill 151. At the same time, the province wishes to uphold integrity and food safety through the promotion of the Food Donation Act.

It has been shown throughout this chapter that members of many different sectors have discomfort when discussing their role in the production and reduction of waste. Recall that food waste occurs because of a series of complex interactions with food that renders it inedible by humans. An example of such an interaction would be concerns about food safety, or fear of foodborne illnesses that result from eating spoiled food. The other end of this line of tension evokes responsible resource use, which may be characterized as having as close to zero waste as possible.

This food has been deemed unfit for human consumption by municipal household members who choose to either dispose of their uneaten food in a green bin or traditional waste receptacle.

Because the waste managers are dealing with this end product, this puts them more in line with waste management companies (see below). As stated earlier, the province does not mandate municipalities to collect a green bin. Those who choose to collect organics do so voluntarily, often at a substantial cost. Therefore, to reduce their costs, these municipal respondents are in favor of responsible resource use:

“We’re looking at food waste that could have been avoided as an option for our long-term waste management strategy. We’ve just been kind of advertising “use your green bin!” and so now we’re looking at making more of a distinction.” (Municipality 5)

This respondent is careful in stating the waste that they are dealing with is waste “that could have been avoided.” Instead of a simple strategy of just “use your green bin” (recall that at times the option to use a green bin acts as a justification to waste freely: Qi and Roe, 2017) this respondent is trying to make more of a distinction between the kinds of food that can be disposed of. This may require a more careful collaboration between waste management and public health, and a stronger messaging and public education campaign about what types of foods are suitable for “green binning” and which should be eaten. Those in municipal waste management prefer to process as little waste as possible, and therefore support responsible resource use. This is at odds with the public health arm of municipalities, who would prioritize human health over environmental health. Therefore, depending on their area of focus, different municipal actors are shown to prioritize either responsible resource use or food safety.

While processors make up the “other side” of the blue box partnership with municipalities, there exist no such corollary for the collection of a green bin. Instead, **processors, producers, distributors, and food service/retailers** can all be classified as being together on the side of food safety. Despite waiving of liability that is legislated through the Food Donation Act

of 1994, these sectors—that could reap financial benefits from not having to dump excess food in a landfill—still decide not to donate. This is because these sectors have determined that despite the protection of the law, the risk of someone getting sick could damage their brand image significantly more than the cost savings and good will that results from donating edible food. For these sectors, a tension exists between what the law *decrees* and how it is *perceived*.

“From a food side, that is a tough one because really, our main priority is quality assurance and health and safety of the food, and to make sure there are no issues for our customers... Many other organizations can and do donate, and they’ve had no negative experiences, but are we willing to take that risk? No. Because if we get one sick [person], we could lose a contract. Is it worth it in that case? No.” (Food Service 1)

This respondent is acknowledging that other food service providers have donated food in the past, but that is just not something that they’re “willing to risk” in fear of losing a contract. Many food service providers understand the law and know that it will protect them (particularly because they took great pains to assure me they would only donate suitable product), but donation is not always worth the risk of potential illness.

In addition to the risk of financial losses that could result from a lost contract, there is the matter of trust. As one respondent noted, long before you are sued for donating food that makes people sick or has accidentally gone bad, the public will turn on you:

“If something were to happen... to a business where they donated food, and it made someone sick or worse, kill them... the Globe and Mail text that could exist could be very damaging to a brand. Are they financially responsible for the injury or illness? Maybe not. Do people stop coming to their restaurant?... Potentially. **There’s no legislation that’s going to protect how people feel about you.**” (Food Service 3, emphasis added)

Whether the food is being sold through a contract (as with the previous respondent) or given away, the brand reputation is still at stake. This quote further highlights the tension that exists between how the donation law is written, and how it is perceived. While the law may protect an organization, the fear of public outcry and loss of revenue is too strong. Brand loyalty, repeat customers, and a continued revenue stream are all greater inhibitors than the desire to engage in

responsible resource use and divert less to the landfill. This puts food retailers as more on the side of food safety rather than responsible resource use. They would rather divert the food to landfill than risk an economic hit that may result from a food safety scandal.

For **producers** and **processors**, the same economic and brand recognition concerns exist. However, there is an added layer of tension around the perception of what makes food “safe” to consume. This goes back to the idea of best before dates. Best before dates are not an indication of food safety, but rather food quality. However, customer’s misperception of these dates can cause unnecessary food waste. A producer elaborates:

“The biggest challenge in the food industry is the best before, the interpretation of it by the customer. So best before date is when the product meets its optimum quality. It’s not a food safety thing.” (Producer 2)

Because this perception is so strong, producers and processors find it difficult to continue to sell product past date. Not only are customer’s perceptions such that they will not eat food that is “past date,” the entire system of date labeling is a federally regulated process. There is thus an additional layer of federal oversight/federal desire to protect consumers from foodborne illness by mandating date labels on specific types of foods. Legislation at the federal level can therefore conflict with what the province is proposing. According to one processor:

“The CFIA [Canadian Food Inspection Agency] rules and regulations actually stipulate that it [past date food] has to be sent to landfill. It’s a food safety issue: it needs to be destroyed, buried over, to so much depth... And that’s something that I think even folks at the CFIA know, that yeah, it doesn’t make a lot of sense. It’s competing with our new regulations and everything like that, but their lens is food safety, public safety.” (Processor 3)

This is a misconception on the part of this processor. The CFIA guidelines listed on their website state that food can indeed be sold after its best before date, as a best before date is not an indicator of safety, but quality:

“Products may be found for sale after the “best before” date has passed as the date is based on freshness and quality rather than safety. When this date has passed, the food may lose some of its freshness and flavour, or its texture may have changed. Some of its nutritional value, such as vitamin C content, may also be lost. Many factors can have an effect on the durable life of

a product. It is the responsibility of the manufacturer or retailer to determine if the product has a durable life of 90 days or less and the specific “best before” date for the products they sell. The durable life of products or categories is not prescribed in regulation.” (Date Markings and Storage Instructions, CFIA website, emphasis added)

While the processor above may genuinely believe that the CFIA forbids selling of past dated food, mandating it landfill, the fact remains that this is not true. Here, the respondent is attempting to illustrate the tension that exists with having multiple layers of legislation. As the province decides and the municipality must abide, so too does the federal government decide and the province must abide. This respondent is noting that the diversion of (edible/excess) food to landfill doesn’t make “sense” but that the desire to keep people safe prevails over “common sense” that would find another home for food waste. Sense or no, processors fall in line with the sectors above in prioritizing food safety over responsible resource use.

Similarly, another sector particularly concerned with the safety of food is **NGOs**. NGOs are sometimes seen as an alternative place to send food instead of having to pay for its disposal. As noted, the Food Donation Act of 1994 was meant to encourage donating food instead of landfilling it. NGOs, however, have the same concerns about food safety as their potential donors. Working as they do with food “on the cusp”, or close to expiration, they are in fact perhaps even more risk averse than their donors. In addition to working with food that is close to expiration, NGOs often work with vulnerable or at-risk populations. Therefore, they do not wish to put their clients at risk of contracting a foodborne illness:

“For us mostly, it comes down to the food safety. It’s huge for us, and that’s where we would see our largest amount of food waste, because we want to make sure that all the food is safe. So, anything that’s in question does get thrown out if it’s not good for people.” (NGO 3)

This respondent is acknowledging that they do create a fair amount of waste, but they do so to preserve the trust that exists between them and their client. In some ways, this makes them like a food retailer or food service provider. Their client may not be paying for food, but still needs

some assurance that the food is not contaminated and is safe to eat. To those in the food redistribution business, food safety prevails over all.

Alternatively, by the time waste reaches a **waste management company**, it is considered to no longer be suitable for human consumption. They are not in the business of either selling food or redistributing it, so food safety is not a concern or responsibility of their organization. They will continue to exist as long as other sectors utilize their services. For example, if food retailers or food service providers cease to use landfills and instead prioritize anaerobic digestion or composting, the waste management market will shift towards more digesting or composting. More than any other sector, waste management companies are the most reactive to other sectors in how they treat waste. They exist as a service to be used for the waste created by others. Again, we see a “chicken or egg” problem: do landfills (digesters/composters/biogas facilities) exist because there is waste, or does waste exist because the facilities to treat it are so varied and accessible? While this does not completely absolve them of responsibility, some in this sector believe that they are being villainized by other sectors, and insist that waste management industry is not a suitable path to encourage the overall reduction of waste:

“There has to be more clarification and acknowledgement of the Good Samaritan Act... people hide behind whether they can or can’t donate. Focusing only on waste management is inappropriate.” (Waste Management Company 5)

This respondent is frustrated of this characterization of their sector. Stating that people “hide” behind what they can and can’t donate, and focus only on waste management as a solution is not the correct way to address the situation (“it’s inappropriate”). Therefore, waste management companies are more in favor of responsible resource use over food safety. Logically, however, no waste management company wants complete zero waste as it means they would be out of business.

Overall, outside of the provincial and municipal government, who have regulations that

encourage **both** food safety and responsible resource use, it can be shown that those who sell food for profit or distribute food as part of their services (NGOs) are primarily concerned with food safety over responsible resource use. These actors promote the health of the consumer/the public as being more important than the health of the environment, as the consumer/the public is their main “customer.” These sectors will organize themselves in a way that minimizes their risk as much as possible. They may consider waste to be bad, a sin, wasteful, or “a damn shame” (Producer 3) but overall preferable to potential health issues associated with donated food, or long term revenue loss that results from having a “damaged” brand.

3.4 Legislative Implications

Each of the above lines of tension has implication in the implementation of Bill 151. Considering Line 1, with the opposing ends of waste being the sign of a healthy, productive economy or an inefficient, poorly planned economy, the provincial government has clearly set itself up as portraying waste as inefficient, and the sign of a poorly planned economy. The fact that the government has clear directives for inorganic wastes is an extension of the blue box program started by the province of the 1980s. Most of the sectors along the food value chain can agree that waste is inefficient causes them a loss in revenue. However, waste management companies, as well as some producers and processors disagree with this characterization of waste. For processors and producers, time is of the essence: if there is still time to receive profit from an unsold good, then it is not considered to be a waste and inefficient. Once a product passes this optimum window of time, (which also relies on other market conditions such as consumer demand), the excess product slides over the line to becoming a waste, rather than a resource. The province therefore must keep these nuances in mind if it is to have effective legislation on this point.

Considering Line 2, the provincial government has aligned itself as being able to promote **both** a healthy economy and a protected environment. Municipal government and some retailers and processors agree. However, those primarily in the business of selling food for profit may prioritize the economy over all. These economic considerations should not be overlooked, as there are some instances where environmental preservation is at odds with creating a profit. If environmental protection is a costlier proposition than landfilling or traditional disposal, it will be hard to motivate those who are driven by profit to adopt environmental protection measures. Provincial government would do well here to promote the ideals of ecological modernization by encouraging alternatives to traditional landfilling (anaerobic digestion, composting, biogas) at a lower cost to traditional landfilling.

Considering Line 3, the provincial government has expressed that it is in favor of both “carrots” and “sticks” to encourage greater diversion rates from landfill. Again, those motivated who sell food for profit, and who are motivated by economics would very much rather see incentives rather than fines or specific materials bans. However, those who process the waste as well as NGOs are wary of bans as it may just end up pushing more waste on to them without recourse. Recently a law was passed in France mandating that all food from grocery stores over a certain size be donated to NGOs. This law can be considered more of a “stick” as it imposes fines on those who do not comply. Conversely, a law passed in Italy that loosened regulation on the food donation is more of a “carrot”: removing barriers to encourage donation voluntarily. (Previously in Italy, food was to be declared in *advance* of donating, which can be difficult to plan for. The law also loosened regulations on food that has passed its best before date, hoping to destigmatize the process of date labeling and reinforce the differences between safety and quality.) While France’s law was widely hailed as a progressive act, there does not yet exist

sufficient evidence that this reduces the amount of product from a landfill. Instead of grocery stores diverting the waste to landfill, NGOs (often with decreased resources) now must find a final resting place for the excess food. Therefore, the province should exercise caution so that there is “no ban without a plan.”

Considering Line 4, and similar to Line 2, the province believes that both responsible resource use and food safety should be prioritized. It is difficult to compare Bill 151 with the Donation of Food Act, or to see if/how the province will attempt to reconcile the two pieces of legislation. Additionally, it has been stated often throughout this study that there is little to no language about an organics strategy in Bill 151, other than “it will happen.” Any organics strategy that is implemented as part of Bill 151 must be cognizant of federal legislation that already exists to protect the consumer from foodborne illnesses, and take care not to conflict with it. If Bill 151 is to continue to pursue an aggressive “waste-free” strategy, it must be mindful that those who are in the business of selling and redistributing food need to have other options to dispose of their food beyond landfill. Whether that means investing in alternative technologies such as composting, biogas, or anaerobic digestion, the new law must seek to harmonize with other provincial and federal laws that regulate best before date labels and aesthetic standards for food.

Chapter 4: Conclusions

4.0 Summary of Findings

The goal of this research was to uncover lines of tension that exist in the creation of food waste policy in Ontario. I did so by incorporating three theoretical frameworks: social field theory, ecological modernization, and discard studies. Social field theory provided a suitable framework for viewing the relationships between members of the food value chain, and setting the field of waste legislation. Ecological modernization provided a starting point for describing of lines of tension beyond basic political ideologies of “left” and “right”. Instead, by asking members across the food value chain questions about their perceptions of how waste should be dealt with by government (for example, fines for polluting, incentives for donation of food “waste”, landfill bans on organic materials, increased tipping fees), I excavated a greater understanding of how members viewed their own role in the production and reduction of waste, and how they viewed the government’s role in the production and reduction of waste as well. Discard studies provided a lens through which to view the cultural meaning of waste, and how society gives or removes value to items typically deemed as a “waste.” Discard studies also focuses on the moment that a product “transforms” into a waste. There currently exists a paucity of research exploring how members of the food value chain view waste, legislation, and their relationship to one another.

To determine what lines of tension exist in the creation of food waste policy in Ontario, I pursued two objectives:

1. Determine what impact, if any, legislation has/will have on the flows of food waste in Ontario;

2. Identify how stakeholders define waste and assign responsibility for the treatment of food waste.

To determine the impact of legislation has/may have on the flows of food waste in Ontario, I relied on document analysis of past and present waste legislation. I supplemented this document analysis with semi-structured interviews to obtain a better sense of the actual flow of waste, beyond the theoretical framework provided by legislation. I found through my document analysis that Ontario has been subject to a series of start and stop legislation. These policies have attempted to reduce the amount of waste that occurs in this province. I discovered that municipal curbside collection of organic wastes is not currently mandated by the provincial government. Municipalities who do collect organic waste do so voluntarily, and often at a great cost. The only type of waste that the province mandates collection of is blue box, or recycling, waste. These wastes were previously paid for in a 50/50 split between municipalities and the producers of the material. However, the regulations that established this payment structure were established in the 1980s. Changes and upgrades to packaging material have made certain materials ineligible for blue box collection, shifting that waste to the curbside. Furthermore, without an end market for the materials, municipal respondents reported to me that it is difficult to recoup the costs that they are putting into the program.

Outside of the mandated household collection of recycling wastes, various parts of the food value chain have contracts with private waste haulers. They may choose to dispose of their waste by sending it to a landfill, turning it to compost, or using anaerobic digestion to create energy and digestate. Additionally, some interview respondents noted that Ontario is uniquely geographically situated in that it oftentimes is cheaper to dispose of waste in landfill across the border to the United States than it is to dispose of it in Ontario. This unique positioning of

Ontario must be considered when discussing waste flows.

Finally, separate from these waste laws, there exists legislation in Ontario that hopes to encourage the donation of excess food. This legislation is the Donation of Food Act, and it waives donor liability if someone is to become sick from donated food. (This is not to suggest that donation is the only appropriate option for excess food; but rather to illuminate that there are measures that currently exist as alternative to landfills.)

To consolidate and streamline the disparities that exist in waste law in Ontario, the Ministry of Environment and Climate Change has proposed legislation that seeks to reduce diversion of waste to landfill, and recapture the value of waste and apply it to the economy in a circular economy model. This legislation is Bill 151. Bill 151 seeks to clarify roles and responsibilities surrounding the treatment of waste, yet remains quite skeletal. The bill is even less clear about how **food waste** will be considered, and who will be responsible for treating it. Yet, we can infer from what the provincial government says about other types of waste how they may decide to treat food waste in the future. The ambiguity of this law was intentional, so that regulations could be made to accommodate input of all stakeholders. However, this lack of clarity may complicate implementation of this policy. This directly relates to my second objective, which was explored primarily through semi-structured interviews. As noted throughout, different sectors of the food value chain have different definitions of waste. If one is producing and selling food for a profit (producers, processors, retailers, food service providers), this food product is not considered a waste until it absolutely cannot be sold or repurposed. At that point, it is “transformed” into a loss. These sectors do not consider this product a “waste.” Additionally, those who are in the business of repurposing food or redistributing it to those in need (NGOs) are reluctant to use the word “waste” as it is morally distressing to give out food to

clients or guests that is considered a waste product. Instead, these sectors call this type of product “repurposed”, “rescued”, “gleaned”, or “reclaimed.” Furthermore, members of waste management companies and municipal waste managers prefer to use the term “resource” when thinking of wasted food. The opportunity for waste product to turn into a source of compost, energy, or other useful item is what drives the use of this terminology.

Through exploring these differences in waste terminology, and evaluating where different sectors aligned with or diverged from the province’s views (see Chapter 3), I ultimately uncovered lines of tension that existed throughout the legislation between sectors of the food value chain. After thoroughly reviewing Bill 151 and its accompanying strategy documents, I discovered four lines of tension that existed in the creation of food waste policy in Ontario:

1. Is waste the sign of a healthy, productive economy? Or is waste a sign of an inefficient, poorly planned economy?
2. What should be more heavily prioritized, the environment or the economy?
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)?
4. Which should be more heavily prioritized, responsible resource use or food safety?

These lines were developed by studying the work of Carol Mutch, who adapted Pierre Bourdieu’s social field theory. In both Mutch’s study and my own, the government had a strong hand in “setting the field” around a particular topic, and controlled access to the field by allowing other members to give input on the legislation. While Mutch’s lines of tension were political in ideology (left versus right), the topic of waste was not something that could be classified as such a binary. Therefore, I integrated the frameworks of ecological modernization and discard studies to develop my own lines of tension. Ecological modernization seeks to close

the disconnect that exists between the economy and the environment, and posits that one can grow the economy and protect the environment simultaneously (Mol and Spargaren, 2010). This ideology has been adopted by the Ontario government in creating Bill 151, but not all members of the food value chain agree. Ecological modernization lent itself well to exploration through lines of tension 1 and 2.

Discard studies comprised a suitable body of literature to use to explore lines of tension 3 and 4. Discard studies seeks to open the “black box” of waste, taking it from being an “absent presence” (Evans *et al.*, 2013) to something to be systematically understood and explored (Liboiron, 2014). With line 3, how one views or defines waste (either as a resource or a “true” waste) determines how one feels about incentives or disincentives for those who *produce* the waste. Another component of discard studies is the materiality of waste: because food is a living organism with its own lifecycle, there exists a “thin and blurred line” (Van Bommel, 2016) of when food transforms into waste. Concerns about the safety of food that has crossed this line was charted upon line of tension 4. While Bill 151 does not specifically touch upon the concept of donating food to those in need, as mentioned above, there is current legislation that waives donor liability if someone is to become sick from donated food.

I found that many of the people I spoke to for my research who produced food for profit or distributed it were uncomfortable confronting their production and treatment of waste head on. This relates directly back to a concept explored by discard studies known as the social avoidance of waste (see de Cloverly *et al.*, 2008). By failing to address waste as something that occurs directly because of one’s actions, one does not need to take the steps to reduce or treat waste. Waste is divorced or disconnected from the process of consumption, which has been reinforced by years of legislation that treats waste reduction as an end-of-pipe problem, something to be

controlled or maintained. This view of waste allows it to continue unchecked, and has failed to manage the problem in Ontario.

Overall, I found a strong disconnect between many members of the food value chain and the provincial government. The provincial government has stated that waste is the sign of an inefficient economy, and clearly outlined its intention to move towards a circular economy, enabling resource reuse. This is in direct opposition to traditional economies (notably the ICI sector) which rely on new products to create profit. While the provincial government has stated a desire to both protect the environment and grow the economy, if it remains cheaper to dispose of product in a landfill rather than find a “responsible” home for it, there is no incentive for the commercial sector to reduce their waste. At the time of my study, it was unclear from Bill 151 if the government would attempt to incent or discourage waste reduction either through tax credits or bans/fines. However, the Ministry has recently indicated that they have moved up the timeline on developing an organics strategy to be in place before the next election. They have also signaled that they are in favor of organics bans as a strategy to meet their target goals. Finally, through proposing Bill 151 but not repealing or amending previous legislation regarding the donation of food, the provincial government may be suggesting a strong (but not necessarily equal) weight be placed on responsible resource use and food safety.

Municipalities line up with the province on lines 1 and 2, placing waste as inefficient and stating that both a prosperous economy and protected environment are achievable. Municipalities diverges from the province on lines 3 and 4, by being in favor of fines/bans to encourage waste diversion, and they are split depending on the sector for responsible resource use (municipal waste managers) and food safety (municipal public health). **Processors** are also in line with the province on lines 1 and 2, but diverge on lines 3 and 4 in favoring incentives over

fines/bans, and prioritizing food safety over responsible resource use. **Producers** are mainly in line with the province on line 1, although some producers consider waste to be a sign of a productive economy. They do not specify whether they prioritized the economy or the environment in line 2, and diverge from the province on lines 3 and 4, also favoring incentives over fines and prioritizing food safety over responsible resource use. **Distributors** line up with the province only on line 1. They diverge on lines 2, 3, and 4, prioritizing the economy, financial incentives, and food safety respectively. **Retailers and food service** are in line with the province on line 1, and diverge with the province on line 2, with some retailers feeling that both the economy and the environment can be prioritized simultaneously, while some food service respondents reporting that the economy is their main priority. On lines 3 and 4, this sector also diverges from the province by being in favor of incentives rather than bans/fines, and prioritizing food safety over responsible resource use. **NGOs** diverge from the province and are split on line of tension 1, considering waste to be both the sign of an inefficient and efficient economy. They are both in line with and diverge from the province on line 2, depending on if their main focus is the environment (in which case they prioritize the environment) or food redistribution (in which case they do not prioritize the economy over the environment). For lines 3 and 4, they favor fines/bans, and prioritize food safety above all. **Waste management companies** diverge from the province on line 1, by considering waste to be a sign of a healthy, productive economy. They are in line with the province on line 2, in believing that both economic growth and environmental protection is achievable. They diverge again from the province on line 3, by favoring both fines/bans, and incentives: whatever will divert the most amount of waste materials to their organization. Finally, they strongly support responsible resource use on line 4, once again diverging from the province.

4.1 Scholarly Contributions

My work contributes to an understanding of the field as first illustrated by Bourdieu (1985). Following Mutch (2014), I believe that a more sociological critique of policy is essential. In creating Bill 151, the provincial government has outlined **what** waste is, **who** is responsible for treating it, and **how** those parties are to treat it. However, a full understanding of the players on the field of waste and how they interact with one another had not been undertaken at the time of my study. Recognizing and classifying the different components that comprise the food value chain is essential to creating and implementing a successful policy. Mutch's outlining of the different players along lines of tension allows for a bird's eye view of the players, their relationships with the policy and one another. My work expanded upon traditional dichotomies used by Mutch to explore the more complex topic of waste policy, which transcends simple left and right political dichotomies.

My work also contributes to the field of ecological modernization. Hajer's (1995) discussion of acid rain (see Chapter 1) constructed not only the problem but the general place and space in which the problem occurred. He thus provided a framework for understanding how stakeholders may perceive the environment differently, despite using a common language. In my research, many of my respondents actively avoided using the word "waste", or had different connotations to the word. Notably, the provincial government did not share these concerns, often calling Bill 151 "The Waste Free Ontario Act." 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 have different ideas about what those words mean. This results in various implications for waste reduction. Recall how evocative it can be to say "food waste" rather than "food loss"—how is the blame shifted or absolved when one is used over the other? Even more evocative still to use the term "wasted food", a simple reorganizing of the terms changes it from

passive, perhaps unavoidable “loss” to active, avoidable “wasted” food.

Building upon this discourse, my work also contributes to the field of discard studies, by examining the use of the word “waste” in the context of policy making. As noted above, many members of the food value chain expressed discomfort in using the word waste and offered alternative definitions or phrases. A primary characteristic used to describe waste was the absence or presence of “value”, most notably economic value: could the product in question be sold for money? This specific notion of waste being valueless echoes the work of Zsusa Gille (2013). Waste is often black boxed and not examined by society, and is easier to be out of sight and out of mind (Watson and Meah, 2012). So too is policy, often cloaked in archaic language, or “legalese,” making it difficult for layperson to understand. A greater understanding of both waste policy and waste itself is therefore necessary, and was expanded upon in my study. The term “food waste” has become a cultural buzzword, but differing understandings of why it exists, when it occurs, and how to reduce it persist.

4.2 Policy Contributions

As noted, waste legislation has had an uneven implementation in Ontario over the past 30 years. The current Ministry of Environment and Climate Change seeks to shift the conversation about waste by implementing a circular economy, which has the implicit aim of promoting extended producer responsibility. The circular economy promotes reuse of items as both a cost savings and a way to protect the natural environment. By promoting extended producer responsibility, the government is attempting to show producers their role in both the production and treatment of waste. By encouraging producers to keep the end in mind when designing and distributing a product, the government is attempting to shift the market rather than shut it down completely.

By proposing an organics ban, the province is moving away from typical end-of-pipe solutions to the waste problem. End-of-pipe legislations are concerned with treating the waste after it occurs without much thought to how it arrived there, or how the food value chain causes the waste to occur in the first place. Proactive measures like bans force the conversation about waste further up the food value chain by making it economically onerous for members to continually deposit food waste in a landfill. Thus, an organics ban and accompanying fines for noncompliance are a direct response to those respondents who reported to me that they did not have any waste: clearly waste does occur, and so much so that it needs to be managed by way of a ban.

As noted, different sectors of the food value chain converge and diverge with the province. For this policy to be effective, the province must understand how each sector views responsibility for the production and treatment of waste. Social avoidance of waste has caused some respondents to blame sectors other than their own for producing waste. Therefore, provincial legislation **must** address each sector of the food value chain individually and specify each sector's individual responsibilities. The province must also be ready and able to enforce the laws they create. While the government is taking an arguably neutral stance by attempting to implement a circular economy, rather focusing efforts on reclassifying waste as a resource, the treatment of waste is anything but neutral.

Bill 151 would benefit enormously from a more definitive stance on **who** is responsible for the treatment of waste and **how** they are to be responsible. The province has begun to do so by expressly stating they are in favor of an organics ban to curb improper disposal of organic waste to landfills. Many of my respondents noted that they too were in favor of bans for waste reduction, but cautioned that the ban not come without a plan. If there are no clear consequences

for not following the ban or disposing of materials properly, the business of wasting has the potential to continue “as usual.” Recall that the province has been specific that brand holders *may* have responsibilities on registration, waste reduction, collection, management, promotion and education, as well as reporting, auditing and record keeping (Section 61, Waste Free Ontario Act). However, the province has not specified how they will ensure that brand holders *actually* carry out these new responsibilities. My research has illuminated that people across the food value chain may wish to avoid taking responsibility for waste: a law alone may not compel them to reduce their waste, but a law with an effective enforcement strategy behind it, may.

Thus, the province must invest in a more robust and proper understanding of the economic motivations that cause people to waste. Simply renaming waste as a resource and having vague goals such as a “waste-free” economy are great aspirations but need to be backed up by better data about how much waste is occurring and where it occurs along the food value chain. Unless they are incentivized to do so, sectors who create food for profit will continue to utilize options of disposal that are cheapest.

4.3 Opportunities for Future Research

Clear opportunities for research exist in understanding stakeholder’s perceptions of what waste is, why it occurs, and how to treat it. Furthermore, as Bill 151 moves from proclamation to regulation stage, a refined understanding of the motivations of each sector of the food value chain is essential. Academic studies on where different members of the food value chain connect and diverge have yet to be taken on, especially in Ontario. In Ontario, the literature that does exist is heavily siloed and disparate. Some studies concentrate on recycling (Lakhan, 2015). Others focus more on the household level (Parizeau et al., 2015). A few trade associations have commissioned reports on waste across the municipal level (see the Ontario Waste Management

Association's "Rethinking Organic Waste" reports of 2015). Gooch and Felfel (2014) performed a scan of the institutional, commercial, and industrial (ICI) sector, but this again reiterates the siloed nature of existing research. Additionally, these studies do not examine the effects of legislation on each sector of the food value chain. They further do not examine how each sector perceives the legislation as affecting them. More work is needed on how sectors perceive legislation and how it affects them for legislation to be effective.

A greater excavation on the link between waste management practices and the reduction of food insecurity would be of great interest here. Noting discard studies above, there is often a sense of avoidance associated with the notion of "wasting food" while rates of food insecurity continue to grow in developed countries like Canada. Economic levers (fines or bans, tax incentives) have the potential to be the most effective in reducing food waste, as they can be a stronger motivator than environmental stewardship in an industry that lives on razor-thin profit margins. Future research would do well to explore these "carrots" and "sticks" in detail. Ultimately, the Ontario government's shift from a reactive way of treating waste to a more proactive one may help the province shed its characterization of "running in circles" on waste policy.

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Appendix A: Documents Reviewed

- 1) Waste Diversion Act, 2002
- 2) Bill 91: Waste Reduction Act 2013
- 3) Ontario Regulation (O. Reg.) 101/94: Recycling and Composting of Municipal Waste
- 4) Ontario Regulation (O. Reg.) 102/94: Waste Audits and Waste Reduction Work Plans
- 5) Ontario Regulation (O. Reg.) 103/94: Industrial, Commercial and Institutional Source Separation Programs
- 6) Ontario Regulation (O. Reg.) 104/94: Packaging Audits and Packaging Reduction Work Plans
- 7) Ontario Regulation (O. Reg.) 273/02: Blue Box Waste
- 8) Ontario Compost Quality Standards (<https://www.ontario.ca/page/ontario-compost-quality-standards>)
- 9) Date Markings and Storage Instructions, Canadian Food Inspection Agency (<http://www.inspection.gc.ca/food/labelling/food-labelling-for-industry/date-markings-and-storage-instructions/eng/1328032988308/1328034259857?chap=0#c1>)
- 10) Donation of Food Act, 1994
- 11) Bill 151: Waste Free Ontario Act 2016
- 12) First Reading: November 26, 2015 (for this day and all following, see here: http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=3598&detailPage=bills_detail_debates)
- 13) Second Reading: February 16, 2016
- 14) Second Reading: February 17, 2016
- 15) Second Reading: February 18, 2016
- 16) Second Reading: February 23, 2016
- 17) Second Reading: February 24, 2016
- 18) Second Reading: February 25, 2016
- 19) Second Reading: March 1, 2016
- 20) Second Reading: March 10, 2016
- 21) Second Reading: March 23, 2016
- 22) Vote Deferred: April 5, 2016. Sent to Standing Committee on Social Policy
- 23) Standing Committee on Social Policy: April 18, 2016
- 24) Standing Committee on Social Policy: April 19, 2016
- 25) Standing Committee on Social Policy: May 2, 2016
- 26) Standing Committee on Social Policy: May 3, 2016
- 27) Standing Committee on Social Policy: May 9, 2016
- 28) Standing Committee on Social Policy: May 10, 2016
- 29) Third Reading: May 17, 2016
- 30) Third Reading: May 18, 2016
- 31) Third Reading: May 19, 2016
- 32) Third Reading: May 31, 2016
- 33) Third Reading: June 1, 2016
- 34) Royal Assent: June 9, 2016

- 35) Corporate Social Responsibility Report: Campbell's Company
(<http://www.campbellcsr.com/>)
- 36) Corporate Social Responsibility Report: Loblaw's Companies
(<http://www.loblaw.ca/en/responsibility/reports.html>)
- 37) Strategy for a Waste Free Ontario: Building a Circular Economy
(http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2015/012-5834_DraftStrategy.pdf)
- 38) Long Term Waste Management Strategy: City of Toronto
(<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-94038.pdf>)
- 39) Organics First: Setting Toronto on the Zero Waste Path (Toronto Environmental Alliance) (<http://www.torontoenvironment.org/organicsfirst>)
- 40) Developing an Industry Led Approach to Addressing Food Waste in Canada (Provision Coalition) (<http://www.provisioncoalition.com/assets/website/pdfs/Provision-Addressing-Food-Waste-In-Canada-EN.pdf>)
- 41) Rethink Organic Waste: A Circular Strategy for Organics (Ontario Waste Management Association)
(<http://www.owma.org/Publications/OWMAReportsandPolicies/tabid/180/ctl/DisplayAttachment/mid/624/AnnotationId/d764a0c7-1878-e511-8dc5-00155d607900/ShowOpenSaveDlg/1/Default.aspx>)
- 42) Press Release: New Senate Bill Signals Building Support for Nutrient Recycling, Biogas (American Biogas Council)
([http://americanbiogascouncil.org/pdf/ABC%20Press%20Release%20on%20S3248%20FINAL%20\(002\).pdf](http://americanbiogascouncil.org/pdf/ABC%20Press%20Release%20on%20S3248%20FINAL%20(002).pdf))
- 43) Feeding People, Not Landfills: Why Reducing Food Waste Matters (National Conference of State Legislatures)
(<http://www.ncsl.org/documents/statefed/humserv/FoodWasteBriefAug2013.pdf>)
- 44) PAC NEXT response to Bill 151 Waste Free Ontario Act and Draft Provincial Strategy
(<http://pac.ca/assets/pacnext-bill151-response.pdf>)
- 45) RCO Submission On Bill 151: Waste Free Ontario Act
(https://www.rco.on.ca/uploads/File/RCO_EBR_Response_to_Bill_151_-_Waste-Free_Ontario_Act_-_Feb_29_2015.pdf)
- 46) Ontario Federation of Agriculture response to Bill 151: Waste Free Ontario Act
(<http://ofa.on.ca/issues/submission/OFA-submission-regarding-waste-free-ontario-act>)
- 47) Making an Impact: Environmental Sustainability Initiatives in Canada's Food, Beverage, and Consumer Products Industry (Food and Consumer Products Canada)
(<http://www.fcpc.ca/Userfiles/PAResources/Public2012/Making%20an%20Impact.pdf>)
- 48) The New Plastics Economy: Rethinking the future of plastics (Ellen MacArthur Foundation) (<https://www.ellenmacarthurfoundation.org/news/the-new-plastics-economy-rethinking-the-future-of-plastics-infographics>)
- 49) A Brief History of Waste Diversion in Ontario (Canadian Institute for Environmental Law and Policy) (http://www.cielap.org/pdf/WDA_BriefHistory.pdf)

Appendix B: Sample Interview Questions

General Questions:

1. Tell me about your organization. What type of work do you do? How does your work connect to food waste?
2. What legislation currently affects you with respect to food waste management?
3. Does this legislation cause barriers to your organization in its efforts to reduce or divert food waste? If so, what helps you overcome these barriers?
4. Does this legislation provide you with opportunities for reducing or diverting food waste? If so, how?
5. Are there policies, laws, or bylaws at the federal or municipal level that impact food waste reduction or diversion for your organization?
6. What has been your experience with previous iterations of provincial waste management legislation (for example, the Waste Reduction Act)?
7. What are your thoughts on the Waste Free Ontario Act that is currently under development? Do you feel that the concerns of your organization or other organizations like yours were taken into consideration in the preparation of this legislation?
8. How do you think the Waste Free Ontario Act will impact your efforts to reduce or divert food waste?
9. Do you anticipate that the Waste Free Ontario legislation will have an impact on the structure of your organization? If so, how? How do you perceive your organization's role in the circular economy?
10. Is there anything else that you think I should know about how current waste legislation impacts food waste?

Legislative Intervention Questions:

1. Metro Vancouver has placed a ban on organic waste in landfills. What do you think the impact of such a ban would be on your organization? How would this kind of ban impact food waste in Ontario?
2. In France and Italy, retailers are prohibited from throwing away food waste, and must donate it to food recovery organizations. (Otherwise, they are fined). What do you think the impact of such a policy would be on your organization? How would this impact food waste in Ontario?

3. Most provinces, including Ontario, have a Donation of Food Act, which waives donor liability if someone gets sick from the donated food. What is the impact of such a policy on your organization? How does this impact food waste in Ontario?
4. The United States offers a federal tax credit to retailers that donate their food to NGOs. The corporation can claim 50% of the value of the food donated on their tax returns. What do you think the impact of such a policy would be on your organization? How would this impact food waste in Ontario?
5. In Ontario, there is the Farmer Donation Act, which is a tax credit that allows farmers who donate their food to food banks and community food programs a tax credit of 25% of the fair market value of the items donated. What is the impact of such a policy on your organization? How does this impact food waste in Ontario?
6. Are there other legislative or policy interventions that you can think of that might be applied in Ontario? If so, what do you think their impact would be on your organization? What would the impact be on food waste in Ontario?
7. What barriers does your organization face in reducing or diverting (a greater amount of) food waste?