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Canada's Integrated Management Approach to Plastic Products: Defining the Problem and the Jurisdiction

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Abstract

Plastic waste is a global environmental problem. However, management solutions must be developed within local, institutional contexts. This paper considers the Government of Canada's 'proposed integrated management approach to plastic products' both as a strategy for management and as an expression of federal jurisdiction. What is the policy problem to which they are responding, and how are they characterizing that problem in order to claim jurisdiction? Most importantly, what are the policy implications of this jurisdictional question?

Keywords: Single-use plastics, plastics management, federalism, plastic waste impacts

Introduction

The food industry is global and transboundary, relying on vast flows of commodities, capital, and labour. But in spite or because of this scope, governance of food policy is fragmented among international, federal, provincial, and municipal authorities. This overlapping and ambiguous jurisdiction leads to contradictory or incoherent policies, or alternatively to policy vacuums where no level of government claims jurisdiction (Richardson & Lambek, 2018).

Similarly, environmental policy is an area of wide scope and overlapping jurisdiction (Hogg, 2012). In particular, plastics pollution is a transboundary issue of major concern (Schnurr et al., 2018); yet, prior to recently announced initiatives at the federal level, waste management has been primarily a matter of municipal jurisdiction (Diggle & Walker, 2020). Even with the increasing development of international instruments to target plastics pollution, actual implementation continues to rely on a patchwork of local solutions (Pettipas, Bernier, & Walker, 2017).

Now, over the last 5-10 years, the issue of plastics pollution has attracted a surge of interest both from international bodies and from individual consumers (Maye et al., 2019; Walker et al., 2020). This increased scrutiny has pressured national governments to take action, in both the European Union (EU) and Canada.

Much of the response has focused on single-use plastics, owing to their ubiquity in the environment (Canada, 2020a). In Canada, legislation was announced in 2020 to curb plastics pollution and achieve “zero plastic waste” by 2030 (Canada, 2020b). Key features of the Canadian legislation include: a ban on single use plastics bags, stir sticks, 6-pack rings, cutlery, straws, and food service ware (to take effect in 2021), and strategies to implement a circular economy through recycled content requirements and extended producer responsibility with a target goal of 2030 (Canada, 2020b).

The goal of this paper is to consider how and why the federal government is claiming jurisdiction over plastic packaging. What is the policy problem to which it is responding, and how is it characterizing that problem in order to claim jurisdiction? Most importantly, what are the policy implications of this jurisdictional question? While the discussion is oriented towards the Canadian context, both food and environmental policy are global issues. The coordination of a Canadian national response should be seen as part of a larger trend towards national and international coordination on plastics pollution, and on environmental issues in general.

Theory

The theoretical approach of this paper is to treat the question of single use plastics regulation as a question of federalism. The key contribution of this approach is to highlight the role of institutions as a mechanism of policy change (Wellstead, 2018). The main insight is that jurisdiction is not merely a contextual or technical question; in fact, it is centrally important to the policy problem. Policy instruments are not disembodied. They are created by particular actors, within a particular institutional context. Policy-making processes are closely inter-related to the legal-institutional frameworks in which they operate.

Accordingly, this paper focuses on the federal approach to plastics regulation. The goal is to outline how the issue is defined, and how that definition fits into the framework of Canadian federal power. By placing the matter within a specific head of federal power, it is possible to see what legal-institutional constraints exist on how the federal government may legislate. Far from being a merely technical issue, the jurisdictional question has far-reaching implications for how the federal government approaches the matter of plastics pollution. These implications are directly relevant to the food sector as one of the primary effected stakeholders.

The analysis therefore proceeds in three stages:

1. Definition of the problem
2. Establishment of jurisdiction
3. Policy implications

Definition of the Problem

The first step of defining the problem is seemingly the simplest, but also the most important. If policy making is about solving problems, then the first step is to define what the problem is (Pal, 2013). In order to produce useful policy analysis, the definition of the problem must be clear and specific: what precisely is this policy trying to address?

Much of the literature about plastics policy takes advantage of a certain murkiness in its problem definition. In announcing its new, comprehensive plan for plastics pollution, the Government of Canada writes:

Plastic is polluting our rivers, lakes, and oceans, harming wildlife, and generating microplastics in the water we use and drink. Every year, Canadians throw away 3 million tonnes of plastic waste, only 9% of which is recycled, meaning the vast majority of plastics end up in landfills and about 29,000 tonnes finds its way into our natural environment. Canadians expect the Government to take action to protect the environment and to reduce plastic pollution across the country (Canada, 2020b, para. 2).

There is a key rhetorical strategy here, where the direct appeal is to popular concern about plastics pollution in the environment (e.g., “rivers, lakes, and oceans”). But what follows is a yoking together of two quite distinct issues: (1) that most plastics go to landfill, and (2) that 29,000 tonnes of plastic find their way into the natural environment each year. These issues need to be distinguished: while it may be true that it is undesirable to send plastics to landfill, it is misleading to suggest that there is any inherent connection between landfill plastics and plastics finding their way into the environment. Landfills may be criticized as economically wasteful or as significant emitters of greenhouse gasses (Bogner et al., 2008; Magazzino et al., 2021), but there is no reason to equate plastics in landfills with plastics in oceans.

A clearer definition of the problem is offered by the highly influential report from the Ellen MacArthur Foundation and World Economic Forum, “The New Plastics Economy: Rethinking the Future of Plastics” (2016). This report highlights three substantial environmental impacts of single use plastics: greenhouse gas emissions from production, leaching of contaminants, and damage to natural systems where plastics are released into the environment. While these three impacts are all related, for the sake of analytical clarity they should be treated as three distinct problems. These will be discussed separately below.

Greenhouse Gas Emissions

The production and lifecycle of plastics are significant emitters of greenhouse gasses (GHG), accounting for 3.8% of total global emissions in 2015 (Zheng & Suh, 2019). Accordingly, strategies for the reduction of plastics use are presented as a means of reducing these emissions (Ellen Macarthur Foundation, 2017; European Commission, 2018). However, caution is warranted. Without dismissing the seriousness of plastic’s GHG emissions, they should be put in context. For most food items, packaging is responsible for only a small part of the carbon footprint (Barlow and Morgan, 2013; Dilkes-Hoffman, 2018; Garnett, 2011). The GHG emissions of agricultural production – particularly for carbon-intensive foods like beef and dairy – generally dwarf the GHG contributions of packaging (Heller, Selke, & Keoleian, 2018). To compare: global plastics production accounts for approximately 3.8% of GHG emissions (Zheng and Suh, 2019), while global agriculture accounts for approximately 26% of GHG emissions (Poor and Nemecek, 2019). While figures are sensitive to the parameters of models and methods, the order of magnitude is clear.

It follows, then, that efforts to curb GHG emissions should consider the entire food product, rather than focus on just the packaging. Consider that food waste – which globally

comprises about one third of food production – contributes more GHGs than the entire plastics industry (Dorward, 2012). This just for food that is never consumed. Meanwhile, packaging plays a central role in extending food shelf-life, helping to curb waste (Barlow and Morgan, 2013; Risch, 2009). In addition, packaging strategies have the ability to discourage food waste by altering consumer behaviour (Williams et al., 2020). Unfortunately, there are often trade-offs between minimizing packaging and minimizing food waste, for example, more, smaller packages will decrease food waste but increase packaging waste (Wikstrom et al., 2019). Still, given the relative emissions of the packaging vs. the food that it contains, strategies that curb food waste through increased packaging will generally lead to a net reduction of GHG emissions

In addition, strategies to curb plastics use are likely to exchange plastic packages for another material. However, due to their light weight and ease of manufacture, plastic packaging is less carbon intensive than many alternatives, including glass, tin, and paper (Ingarao, 2017; Lewis, H., 2010). While many consumers regard plastics as inherently problematic, the truth is that they often represent the most environmentally friendly option (Ketelsen et al., 2020). Serious efforts to curb GHGs must consider holistically the full life cycle of both the package and the product within; knee-jerk reactions against plastics are entirely capable of

producing a perverse result where emissions are actually increased by supposedly “green” alternatives (Stanton et al., 2020).

Leachates

While plastic itself is chosen for its extremely long-lasting stability, additives in plastics may leach into the environment and produce harms in both humans and wildlife (Fauser et al., 2020; Wagner & Oehlmann, 2009). The concern here is not plastics per se, but rather additives that may be released during the use and/or weathering of the plastic items.

This focus would imply a very different approach from the existing discourse around plastics. Rather than trying to reduce plastics use, leachates might be minimized by limiting specific additives. For instance, BPA is a plastic additive that has attracted considerable public attention; in response, regulatory authorities have conducted specific risk assessments to measure and limit exposure to this substance (Canada, 2020d).

Leachates as a problem are quite distinct from plastics themselves, in that they involve substances that would be described as “toxic” in the ordinary sense of the word – in contrast to food-safe plastics. In addition, leachates from plastics should be put in the context of other pollutants existing in waterways, including heavy metals, pharmaceuticals, and pesticides (Stanton et al., 2020). Public policy that aims to limit

toxins in the environment should focus on plastics only proportionately to the role that plastics play in the general release of toxins into the environment.

Oceans Plastic

Finally, the big problem that people think about when they think about plastics is plastics in waterways, and particularly plastics in the ocean. This is an issue that has attracted considerable attention over the last few years, with high emotive resonance (e.g. Hancock, 2019). It is also an issue of increasing academic research (see Aretoulaki, et al., 2020, for a meta-review). Consistent with public perception, this literature shows that large quantities of plastics are making their way into oceans, and that they do pose a serious environmental threat to marine ecosystems (Schnurr et al., 2018; UNEP, 2018; Xanthos & Walker, 2017).

Given the centrality of this concern, plastics reduction schemes are likely to be judged relative to their effectiveness in reducing marine pollution (e.g., Penca, 2018; Xanthos and Walker, 2017). Indeed, much of Canada's science assessment of plastic pollution – the study that informs Canada's current proposed plastics regulation - is focused on impacts to marine and shoreline environments (Canada, 2020a).

This focus is notably narrow. According to a study by Deloitte – commissioned by Environment & Climate Change Canada –

approximately 1% of plastics in Canada end up leaking into the environment, including 10 000 tonnes annually released in coastal regions (Deloitte, 2019). While these are large numbers, they also indicate that 99% of plastics are being disposed of in some manner to keep them out of the oceans. It's true that a large portion of these plastics – fully 86% - go to landfill (Deloitte, 2019), but from the perspective of marine pollution it is not clear what difference this makes. Despite their drawbacks in terms of GHG emissions and land use, modern landfills are highly effective at containing waste – particularly inert wastes like plastic (Nanda & Berruti, 2020). This is not to say that there are not good reasons for diverting plastics waste from landfills, but there is no logical connection between those diversion initiatives and a reduction in ocean plastic. In fact, where recycling practices rely on shipments of plastics from waste producing to recycling nations, it has been shown that those shipments are a pathway to marine plastic pollution (Bishop et al., 2020).

Deloitte's report on the circular economy proposes to reduce Canada's leakage of plastics into the environment, from 29 000 tonnes per year in 2020 to 5 000 tonnes per year in 2030 (Deloitte, 2019). However, the suggested mechanisms for this decrease are "increased awareness" and "initiatives...to reduce litter" (Deloitte, 2019, p. 18). Notably, while proponents of the circular economy seek to

capitalize on public concern over oceans plastics, the proposed initiatives to tackle actual ocean waste have nothing to do with the circular economy; they are simply a combination of ordinary public information campaigns plus wishful thinking.

Jurisdiction

In Canada, the Constitution apportions authority between the Federal and Provincial governments. Every law that is passed must fall under one of a defined list of jurisdictional headings, where each heading is assigned as a federal or provincial power. Jurisdiction is decided according to which heading the law is categorized under (Hogg, 2007). Thus, there are two basic steps to the jurisdictional analysis: defining the purpose of a law, and then placing that purpose under the appropriate heading of power.

The first step of jurisdictional analysis concerns what is known as the “pith and substance” of a law. The aim of this step is to ask what is the “purpose” of the law (R v Morgentaler, 1993). In this step, we are interested in both the narrow, statutory interpretation, and also the wider range of contextual factors that demonstrate the government’s intent for the law. In essence: what is the law about? This “pith and substance” step is closely related to the idea of problem definition. Generally, the problem definition is seen as part of the policy making process,

identifying the problem as the first step towards crafting policy or legislation. In contrast, the jurisdictional analysis is post facto, taking an existing law and looking back at its purpose. Nevertheless, both analyses are concerned with the same basic question: what is this law about?

Once the “pith and substance” is defined, the second step of jurisdictional analysis is to ask what heading of power it falls under, and thus assign it to a jurisdiction. For the case of federal plastics regulation, there are two potentially relevant headings: the federal power to make criminal law, and the federal power to pass laws on a matter of national concern. These powers should be read against the general provincial power to regulate property and civil rights.

The Criminal Power

One important heading of federal power is the power to make criminal law. Since 1997, this power has been interpreted broadly to include the power to ban “toxic” substances (*R v Quebec Hydro*, 1997). *R v Quebec Hydro* defines the criminal power as including any law consisting of a prohibition, backed by sanctions, directed at a “legitimate public purpose.” It is under this definition that the Federal government has the power to ban a “toxic substance” under the *Canadian Environmental Protection Act, 1999* (“CEPA”) (Canada, 2020b). Currently, the Federal Government has indicated that it intends to pass its current plastics regulations under the

authority of *CEPA*. For the purposes of this Act, a substance is considered toxic if “it is entering or may enter the environment in a quantity or concentration or under conditions that ... have or may have an immediate or long-term harmful effect on the environment or its biological diversity” (*CEPA*, s. 64).

As evidence of toxicity, the Federal government can point to the science assessment, commissioned by Environment & Climate Change Canada in 2017 to describe the impacts of plastic pollution on human health and the environment (Canada, 2020a). Even if the assessment does not offer scientific certainty, *CEPA* operates under the precautionary principle, stated explicitly as: “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (*CEPA*, c 33, preamble). The principle is quite clear: when dealing with toxic substances, the government should err on the side of caution, rather than waiting for full scientific certainty before acting.

But while this federal jurisdiction is uncontroversial, it is also limited. The criminal power may include some flexibility in choice of regulatory instruments, but it is ultimately constrained to its basic definition of a *prohibition* (*R v Quebec Hydro*). Therefore it is argued that more expansive, environmental regulatory

schemes that try to move beyond straightforward bans, risk being struck down as encroaching on provincial jurisdiction (Hogg, 2012). It is here that the “pith and substance” analysis becomes important: there is no question that the federal government has the power to ban toxic substances or to pass regulations to limit their use. However, a law whose true purpose is not to prohibit the substance, but rather to regulate private business, will not be a valid federal law.

A notable comparison is Canada’s *Greenhouse Gas Pollution Pricing Act* (“GGPPA”). GGPA is a major piece of federal environmental legislation that faced jurisdictional challenges from the provinces of Saskatchewan, Ontario, and Alberta. Indeed, it may be that the jurisdictional challenge to the GHG legislation was part of what motivated the federal government to pursue its plastics agenda as a relatively simple (from a constitutional perspective) prohibition of a toxic substance. Carbon dioxide and other greenhouse gasses have actually been listed as toxic substances under *CEPA* since 2005 (Canada, 2015). It would, therefore, have been straightforward to pass regulations under *CEPA*, as is proposed for plastics. However, this approach would risk limiting the range of possible regulatory approaches. Therefore, in order to enact a more comprehensive scheme, the Government has sought to characterize GHG

regulations not as a matter of criminal law but as a matter of “national interest.”

A matter of national concern

The Federal government has the power to pass laws relating to “a matter of national concern.” The key decision describing this power is *R v Crown Zellerbach*, 1988 - a case about the discharge of pollution into waterways. This case establishes another federal power to pass environmental law – this time where it regulates on a matter that is single, distinctive, and indivisible, and of a national scope that is beyond the powers of the provinces to effectively regulate (*R v Crown Zellerbach*, 1988). In *R v Crown Zellerbach*, marine pollution was found to be just such a matter, being a distinctive issue that clearly reaches across provincial borders (and even, significantly to the decision, international ones).

It is on the basis of national concern that Canada argued for jurisdiction over GHG emissions, contending that emissions – like marine pollution – are a distinctly national and cross-border matter (Brook, 2020). While it may seem like a merely technical, legal-specialist question, there are in fact two interesting and far-reaching implications to this decision. First, unlike criminal power, national interest power is exclusive. That is, if the Federal Government decides to regulate plastics under the criminal law, the provinces are

free also to pass their own regulations; but, if the Federal Government regulates GHGs as a national concern, it becomes exclusive federal jurisdiction (Hsu and Elliot, 2009). Thus, an argument for national concern does not just claim federal power, it also blocks the provinces from legislating on the matter. For a federal government seeking complete control of an issue, this may be desirable; for a federal government depending on collaboration with the provinces, this may be a problem.

The second implication is that the legislation is not bound by the restrictions of criminal law. Regulations need not take the form of a prohibition and penalty. This gives greater scope for regulatory solutions based on a range of instruments. In contrast, while it is clear that a ban on certain plastic items is a prohibition under the criminal power, it remains to be seen how this dependence on the criminal law may constrict future regulatory efforts to combat plastic waste.

Policy Implications

In principle, the systematic division of powers clarifies roles and responsibilities between levels of government. Division of powers seeks to maintain a balance between the coordinative role of the federal government vs. the regional and local representation of provincial and municipal governments (Buchanan, 1997). Given

the ubiquity of plastic packaging in the supply chain, there is no question that effective efforts must be coordinated at scale (Vince and Hardesty, 2016). At the same time, such coordination necessarily comes at the expense of local and regional autonomy – and in spite of the fact that there exists significant regional variation in Canadians’ attitude towards plastics regulation (Walker et al., 2021). A more decentralizing attitude would seek to respect this variation, recognizing the legitimate desires of different regions to set policy in accordance with autonomous perspectives.

In part, what is taking place with the proposed plastics legislation is a shift away from the “open federalism” environmental policies of the previous, Conservative government (Wellstead, 2018). From 2005-2016 under Prime Minister Stephen Harper, environmental regulation was largely devolved to the provinces as part of a general decentralization. Since 2016, the Liberal government has reversed that trend, launching a number of centralized, federal initiatives on issues ranging from plastics to climate change to affordable housing. In many ways, the single use plastics ban – couched in the rigid structure of criminal law – is emblematic of the renewed centralization of power.

The way that the present ban on single use plastics is characterized is not just a centralization of power but also an extension of

criminal law. As such, it takes the criminal form of a prohibition. What’s more, as environmental law, it is based on the precautionary principle of risk avoidance. What both the criminal prohibition and the precautionary principle share is a preference for the absolute, blanket prohibition, as opposed to situational cost benefit analysis. This is consistent with the key aim of centralization, which aims for uniformity of rules over sensitivity to diverse contexts.

Problematically, in the case of plastics, there is considerable need for cost benefit analysis. In terms of its end-of-life stage, it may be possible to frame plastic packaging as purely a problem, but in its use, it clearly offers both pros and cons. Plastics may offer superior performance in limiting food waste and GHG emissions compared to any alternatives (Barlow and Morgan, 2013; Stanton et al., 2020). Also, despite increased international policy coordination, there remains significant uncertainty about the optimal policy response. Even as support grows for extended producer responsibility and the circular economy, the evidence is ambiguous as to these policies’ feasibility and effectiveness (Brouwer et al., 2020; Harris et al., 2021; Bala et al., 2020). Crucially, the effectiveness of the circular economy will be highly dependent on particular, national and regional factors including recycling techniques, the energy mix, and waste collection (Bala et al., 2020).

While the present federal approach frames plastics as a public evil fit for the criminal law, the reality is far more complex. Trade-offs exist between competing environmental impacts, as well as between a wide range of considerations from food security to economic viability. These trade-offs require sensitive balancing, to which bans and prohibitions are not conducive. We have already seen the federal government shift away from a criminal approach to carbon regulation; it remains to be seen whether it will eventually follow the same route in plastics regulation. In many ways, the proposed ban of six single-use plastic items is the easy part; the hard part of the strategy is yet to come, in the larger scheme to shift manufacturing, supply chains, and recycling toward circularity.

Conclusion

Ultimately, successful policy requires coordination. As is often cited, the global nature of environmental harm demands global response. However, coordination is not costless. As Canada's plastics strategy shows, the path towards centralization requires consolidation of regulatory authority. In the case of plastics pollution, the federal government has achieved this by reducing a complex and multi-faceted issue to the form of criminal prohibition. This may be effective for low stakes interventions like banning straws or grocery bags, but a more nuanced approach is needed if serious inroads

are to be made into the ubiquity of plastics in our society. Such an approach should be explicit about what it hopes to achieve, cognizant of the stakeholders involved, and attuned to the trade-offs between competing goods.

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