

# The Appropriateness of Extended Producer Responsibility as a Policy Option to Manage Compostable Plastics in Ontario

Amanda Vrbensky | Supervised by Virginia Maclaren, PhD | Master of Science in Sustainability Management | University of Toronto | SSM1100Y

## INTRODUCTION

Plastics are ubiquitous and have become essential in everyday life. Plastics are the preferred material for packaging because of its durability, lightness, stability and impermeability. However, these properties also allow them to remain in the environment without breaking down, creating negative environmental impacts [3]. Governments, scientists, NGOS, and consumers are demanding industry to offer more sustainable packaging. Compostable plastic packaging could offer a solution to these issues as an alternative. They are designed to address the end of life consequences of conventional plastics by breaking down in organic processing facilities. However, there are claims that the compostable plastics are not properly breaking down in municipal infrastructure.

## BACKGROUND

- Compostable plastics can contaminate the recycling streams and reduce the quality of recycled product [3]
- The evidence is unclear whether compostable plastics successfully break down in all municipal organics processing infrastructure [4, 2]
  - Some studies have shown full breakdown, partial breakdown, or insufficient breakdown
- Extended Producer Responsibility (EPR) is a policy approach that makes producers of packaged goods pay for the end-of-life management of their products [1]
- Ontario, and other Canadian provinces, have existing EPR programs for municipal waste material
- Currently, compostable plastics are not an obligated material under Ontario's EPR legislation

## METHODS

The research was conducted using two main methods: a jurisdictional scan and interviews with key stakeholders

- The jurisdictions were identified based on an online search with keywords "compostable plastics", "bioplastics", "EPR", "policy options", "regulations"
- A set of 15 interview questions were developed to guide semi-structured interviews, with industry members, municipalities, and policy experts. 10 individuals were interviewed in total and were asked about policy details that could manage compostable plastics

## RESULTS

### JURISDICTIONAL SCAN

#### British Columbia

- Organic Matter Recycling Regulation of B.C.
- Compostable plastics are an obligated material, so producers pay an EPR fee, but the material is not collected or managed

#### Washington

- Restricts the use of "compostability" and "biodegradability" claims
- Must meet ASTM D6400 or D6868
- Requirements for labelling and the use of green or brown lettering or banding

#### European Union

- EPR for all packaging
- Harmonized standard for all compostable plastic, EN 13432
- Working to harmonize rules for defining and labelling

### STAKEHOLDER INTERVIEWS

#### Challenges

- Consumer confusion with terms and proper disposal leads to contamination
- Diverse municipal infrastructure creates fragmented system
- Claims of compostable plastics not breaking down

#### Opportunities

- Alternative to conventional plastics
- Education for all stakeholders
- Niche use in food service industry

#### Certification Standards

- ASTM or BNQ
- Standards are needed but may need updating
- Unclear what level of government should implement standard
- Will not solve all challenges alone

#### Extended Producer Responsibility

- Most participants agreed that EPR is feasible for compostable plastics
- Certification standard and collection systems are needed
- Challenge that producers should not be controlling a system that they are responsible for a small percentage
- They should not be paying fees for material that is not processed by the intended stream

## CONCLUSIONS

- Stakeholders are divided on policy issues regarding compostable plastics and it is unclear how best to manage them
- Certification standards are helpful but may not address all the current challenges with compostable plastics, like infrastructure insufficiencies
- EPR is necessary to ensure producers are responsible but it may not ensure the material is managed through the organic waste stream
- Obligating compostable plastics as a material under EPR, but not mandating the collection and processing in composting creates a fragmented and ineffective system
- If the Ontario government mandates EPR for compostable plastics, collection and management through the organics waste stream should be mandatory to recover the valuable resources

## REFERENCES

- [1] Canadian Council of Ministers of the Environment. "A Canada-Wide Strategy for Sustainable Packaging," 2009. [https://www.ccme.ca/files/current\\_priorities/waste/pn\\_1501\\_epr\\_sp\\_strategy\\_e.pdf](https://www.ccme.ca/files/current_priorities/waste/pn_1501_epr_sp_strategy_e.pdf).
- [2] City of Toronto. "Compostable Coffee Pod Test in the Hydropulper at the Disco Road Organic Processing Facility Test Report Package," 2018, 54.
- [3] Tonjes, David J, and Krista L Thyberg. "Degradable Plastics and Solid Waste Management Systems." Technology & Society Faculty Publications, 2013, 84.
- [4] Zhang, H., E. McGill, C. Ohep Gomez, S. Carson, K. Neufeld, I. Hawthorne, and S.M. Smukler. "Disintegration of Compostable Foodware and Packaging and Its Effect on Microbial Activity and Community Composition in Municipal Composting." International Biodeterioration & Biodegradation 125 (November 2017): 157–65. <https://doi.org/10.1016/j.ibiod.2017.09.011>.