



Parliamentary Commissioner for the Environment

Te Kaitiaki Taiao a Te Whare Pāremata

Hon Eugenie Sage
Associate Minister for the Environment
Parliament Buildings
Wellington

CC: Hon David Parker, Minister for the Environment

5 July 2018

Dear Minister

I am writing to urge you and your officials to take the lead in lifting consumer and business understanding about claims of biodegradability made in respect to many single-use plastics.

When I returned to New Zealand eight months ago I was immediately struck by the continued widespread use of single-use plastic in the retail sector. I also became aware of growing public concern about the sheer scale and persistence of plastics in the environment. This has created a fertile climate for the promotion of plastics that are said to be biodegradable, degradable or compostable. However, unless these terms are used carefully, they can become a serious source of confusion and even lead to worse environmental outcomes. I have noted your recent comments acknowledging these risks.

I initiated a small enquiry to understand the nature of the claims being made. The results of my enquiry suggest that both businesses and consumers face a bewildering array of claims about plastic that can lead to misunderstandings on the part of even the most environmentally conscious citizens. These claims relate to a plethora of materials representing a vast array of chemistries, degradation processes, and end-of-life implications.

As a result of my enquiry, I am setting out to put some key facts into the public arena, which will, I hope, inform understanding and debate. These will be framed as a set of questions and answers on my website with the intention of providing a useful resource for consumers, businesses and officials alike. This resource is intended as a starting point to answer questions around terminology, standards and disposal. However, I have come to the conclusion that the complexity of this matter is such that the Government should take a lead in aiding business and consumer understanding.

I have identified four key areas in which I see a need for such leadership.

Regarding biodegradable plastics, the following issues require urgent attention.

- **Sorting out terminology:** scrutinizing the adequacy of information and advice on terminology available to consumers and businesses to deliver improved environmental outcomes.
- **Standards and labelling:** exploring the potential merits of standards, certification and labelling schemes in light of the confusion around terminology, and ensuring alignment with best international practice.
- **End of life infrastructure:** understanding the implications for end-of-life infrastructure – including recycling, composting, and landfill facilities – and reviewing the availability and effectiveness of advice to consumers and businesses regarding appropriate disposal methods.

Beyond these issues, policies concerning any specific type of plastic need to be coherent with the call for a much more resource efficient economy (sometimes described as a ‘circular economy’). Simply promoting materials as being biodegradable or recyclable as ends in themselves could lead to unintended consequences. This leads me to a fourth, broader issue:

- ***Clarity of environmental goals:*** ensuring that any specific solutions in respect of particular plastics are aligned with the broader goal of reducing the scale and toxicity of waste streams.

To address this, I have identified the following research questions to which the Ministry should seek answers.

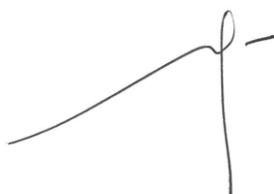
- What are the environmental implications and trade-offs between different material types and end-of-life disposal options?
- Are incentives for consumers and businesses aligned with the most effective solutions?
- What are the risks posed by potentially toxic components within plastics, such as additives, and is New Zealand’s regulatory regime equipped to respond to such risks?

You will find attached as Appendix A the rationale for the four key areas I have identified as requiring further action.

Finally, I would urge you to consider the overarching hierarchy of policy goals that govern waste policy. I was surprised to learn that work on the idea of a ‘circular economy’ is primarily being explored through the vehicle of grants under the waste levy. Resource efficiency and waste minimisation are high level organising principles that should govern all waste streams – to air, to water and to landfill. They don’t, at this point, appear to be playing that role.

I intend to maintain a watching brief in this area and look forward to the elaboration of new and more ambitious policies as they touch on biodegradable plastic and the wider waste stream of which they are a part.

Yours sincerely,

A handwritten signature in black ink, consisting of a long horizontal stroke on the left that curves upwards and then down to a vertical line on the right, ending in a small horizontal tick.

Rt Hon Simon Upton
Parliamentary Commissioner for the Environment

Appendix A: Rationale for further action in four key areas

The landscape of stakeholders seeking to address the environmental impacts of plastics is a crowded one. In a very short space of time we have witnessed:

- a New Zealand Plastic Packaging Declaration in the name of which a number of leading companies have committed themselves to the goal of 100% reusable, recyclable or compostable packaging by 2025
- the Warehouse Group announcing a move to fully compostable bags
- the Packaging Forum establishing an independent technical working group facilitated by Beyond the Bin, comprising composters, manufacturers, waste industry, central and local government and research institutions to assess existing international standards and to consider recommending a New Zealand standard.

Each of these initiatives has been undertaken carefully by businesses that are trying to respond to public concern. But the initiatives pull in different directions, and significant potential for confusion remains.

I have identified **four key areas** which require Government leadership.

Sorting out terminology

Presently, only the Commerce Commission is equipped to investigate and pronounce on unsubstantiated representations and false claims about the attributes of plastics. Its enquiries under the Fair Trading Act have on at least two occasions led to prosecutions concerning spurious claims regarding oxo-degradable bags.

I question whether it is sufficient for the Government to leave the testing of claims to consumers – a challenging enough task given the information asymmetries that often present themselves. An alternative approach would be for the Government to help foster a better-informed marketplace by teasing out some of the ambiguities that, unwittingly or otherwise, encourage consumers to believe they are making environmentally sound choices.

Let me elaborate. Some single use plastics are described as ‘degradable’. Ordinary usage of this term raises the notion of breakdown and disappearance. But by itself the claim is meaningless. Almost any artificially constructed substance will degrade. Adding the prefix ‘bio’ makes things little clearer. Again, ordinary usage suggests a range of processes in ‘nature’ that bring about the degradation. The interesting questions that are not readily answerable by consumers are: over what timeframe and into what by-products?

The internationally accepted definition of a biodegradable plastic is very specific and relates uniquely to the breakdown of a polymer as a result of microbial action releasing only harmless metabolites – carbon dioxide and water in aerobic conditions; carbon dioxide, methane and water in anaerobic conditions. It is almost impossible for a consumer to verify such a fate, particularly when the construction of polymers frequently entails additives that are often deemed proprietary and confidential. The Government is in a position to help consumers – and businesses wanting to do the right thing – to navigate the terminological jungle.

Sorting out the terminology raises the issue of whether standards and labelling could be useful.

Standards and labelling

As mentioned above, the Packaging Forum has commissioned work from Beyond the Bin to pursue an agreement on standards and labelling, appropriate disposal methods, and advice to waste service providers and composters to manage materials appropriately.

While I am encouraged by this initiative, I believe the Government should take a close interest to ensure that New Zealanders can rely on any scheme adopted to be in the best interests of consumers and to result in an improved environmental outcome. Relevant considerations might include:

- ensuring that a certification scheme for biodegradable and compostable products is based on the best available science
- evaluating options for provision of clear, consistent labelling, that is complementary to appropriate certification
- ensuring that any approach taken by New Zealand to certification and labelling is aligned with best international practices.

End of life infrastructure

Consistent requirements around standards and labelling would go some way to address the confusion for consumers that exists at present. However, even with such schemes in place, it is not guaranteed that biodegradable or compostable products are processed in an appropriate end of life facility. Contrary to what environmentally conscious consumers may hope, much compostable packaging is currently destined to be disposed of in landfills due to issues associated with collection, separation, and quality control.

The commitment to reusable, recyclable or compostable packaging referred to in the NZ Plastic Packaging Declaration runs exactly this risk. The environmental intentions of the declaration are, no doubt, laudable. But if compostable packaging is part of the solution, it is all the more critical that effective end of life solutions are found for compostable packaging products.

Ideally, the Ministry for the Environment would pro-actively review the availability of end-of-life solutions for compostable packaging and provide advice to consumers and businesses.

Clarity on environmental goals being sought

There are a variety of reasons why people might be concerned about different types of plastics and their post-use disposal. These can lead to different responses. Without being comprehensive, these concerns and possible responses include:

- *the materials from which they are constructed* – in many cases hydrocarbons (with implications for climate change). A response to these concerns could be a switch to bio-based plastics
- *the discardability of single-use plastics* – with consequences for the use of virgin materials (including energy) and the burden of material being landfilled. A response to these concerns could be a switch to recyclable plastics
- *the quantity and persistence of plastic entering rivers, the oceans and the food chain.* A response to this concern could be a move to biodegradable or compostable plastic.

Normative language about a particular type of material being ‘good’ for the environment is rarely helpful. It will often depend on the context and require an understanding of the trade-offs, incentives and risks presented by any particular use or non-use. This does not, however, imply that we cannot identify attributes and uses that lead to environmental harm. The Government can, through the use of good science, empower businesses and consumers to make better choices and ensure that innovations lead to reduced environmental pressures rather than simply displacing one problem with another.

The complexity of trade-offs that people face can be illustrated with respect to climate change goals. Consider, for example, the relative merits of the carbon storage potential represented by burial of conventional plastics in a landfill in contrast to the release of methane from the breakdown of biodegradable packaging, balanced by subsequent potential recapture depending on the level of sophistication of the facility.

This is why it is important to tease out the relative advantages and disadvantages of different material types and disposal methods in the light of a coherent set of broader environmental policy goals. Doing so would require careful analysis of considerations including resource renewability, energy consumption, land-use, pollutants released (including greenhouse gases), and ultimate fate, among other things.

In conclusion, issues surrounding different plastic types are just one element of a far more complex debate about the material intensity of our economy and the consequences for our environment of *all* our waste streams. Any ‘solutions’ offered must be coherent with a more comprehensive view of resource efficiency.