



**LEGISLATIVE ASSEMBLY**  
FOR THE AUSTRALIAN CAPITAL TERRITORY

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STANDING COMMITTEE ON ENVIRONMENT AND TRANSPORT AND CITY SERVICES  
SUZANNE ORR MLA (CHAIR), CANDICE BURCH MLA (DEPUTY CHAIR), JAMES MILLIGAN MLA

**Inquiry into referred 2017–18 Annual and Financial Reports**  
**ANSWER TO QUESTION TAKEN ON NOTICE**  
**15 November 2018**

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Asked by Ms Orr, Professor Kate Auty took on notice the following question:

In relation to: Review of the ACT Plastic Shopping Bag Ban Report

[View of the OCSE on 'biodegradable plastics, compostable plastics, and plastics that do not have as high a contact count'](#).

**PROFESSOR KATE AUTY:** The answer to the Member's question is as follows:—

The term 'degradable' when used in the context of plastics is unhelpful as all plastics degrade through physical, chemical or inorganic processes.

The critical issues are the speed at which they degrade and what they degrade into. Some of these 'degradable' bags are also produced using chemical additives.

In 2016, a Senate inquiry into the threat of marine plastic pollution in Australia considered the merits of enforcing the use of biodegradable and compostable bags instead of regular plastic bags in order to reduce plastic pollution.<sup>1</sup> It was observed that these types of plastic bags may still significantly contribute to ongoing plastic pollution as well as create confusion in the public realm.

Several experts outlined research that showed no difference between degradable, biodegradable and normal plastic bags in terms of environmental impacts, unless they are disposed of in commercial composting units. It was noted that degradable and biodegradable bags can make microplastics available to animals much faster than would otherwise be the case. A number of witnesses also expressed concern that degradable plastics do not encourage social change to reduce broader use of plastic.

Life Cycle Assessments of biodegradable and compostable plastic bags have shown that direct causal impacts on the environment are not dissimilar, and are at times worse, than those associated with conventional plastic bags.

This reasons for this are:

- reliance on biological material as a primary input for plastic production which includes impacts associated with growing and manufacturing feedstock,

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<sup>1</sup> The Senate, 2016: *Toxic Tide: the threat of marine plastic pollution in Australia*

- when biodegradable plastics degrade under anaerobic conditions such as those in landfill, they produce methane which is a potent greenhouse gas,
- the rate of degradation of biodegradable plastics is dependent on environmental conditions, especially temperature, exposure to ultra-violet radiation, moisture, salinity, mechanical weathering and microbial activity,
- when littered, biodegradable and compostable bags are unlikely to encounter optimal conditions for degradation and therefore will persist in the environment, and
- biodegradable and sometimes compostable bags can still have material litter impacts and therefore can cause animal injury and mortality.

Reflecting these concerns, plastic bag regulations proposed in Western Australia, Queensland and Victoria include degradable, biodegradable and compostable plastic bags less than 35 microns in their bans.

**Requiring all plastic bags to be biodegradable and compostable is unlikely to materially reduce, and may even increase, the environmental impacts associated with the consumption of plastic bags in the ACT.**

However, linking a mandatory compostable bag requirement to the proposed new food and garden organics collection and composting service would mitigate some of these associated environmental risks. This is the focus of current trials in South Australia and is related to the fourth recommendation made by my office – *Research Synergies for compostable plastic and household organic collection*.

Approved for circulation to the Standing Committee on Environment and Transport and City Services

Signature:



Date: 26 November 2018

By the Commissioner for Sustainability and the Environment, Professor Kate Auty