**Rebecca Vassarotti MLA**
Minister for the Environment
Minister for Heritage
Minister for Homelessness and Housing Services
Minister for Sustainable Building and Construction

Member for Kurrajong

**RESPONSE TO QUESTION ON NOTICE**
**Questions on Notice Paper No 38**
**1 December 2023**
**Question No. 1520**

**MR BRADDOCK MLA** - To ask the Minister for the Environment:

In relation to the impacts of installing artificial grass, can the Minister advise (a) what the environmental impacts of artificial grass are, (b) whether artificial grass can be recycled if it eventually ends up in landfill and (c) how artificial grass impacts the urban heat island effect.

**MS VASSAROTTI MLA** - The answer to the Member's question is as follows:

**(a) Environmental impacts of artificial grass**

In 2022, the NSW Chief Scientist and Engineer conducted a thorough independent review into the design, use, and impacts of synthetic turf in public open spaces. The review presented an overview of key insights and made recommendations to guide the use of and improve the management of synthetic turf in NSW.

The findings and recommendations were made to inform guidance being developed by the NSW Department of Planning and Environment (DPE) for councils that are proposing new synthetic fields, as well as informing applications and management of synthetic turf in other settings.

The outcomes of the NSW review suggest there is a need to carefully consider the ongoing use of synthetic turf due to the potential environmental and ecological impacts. These include:

- Water contamination and soil health with evidence that both rubber infill and turf fibre blades from synthetic turf fields are found in waterways in NSW.
- Weathering, UV exposure and the association of microbes with plastic material influences leaching of chemicals into the environment. Research under Australian conditions has found mixed contaminants including heavy metals have higher toxicity and bioavailability than those in isolation.

**ACT Legislative Assembly** London Circuit, GPO Box 1020, Canberra ACT 2601
+61 2 6207 8975 vassarotti@act.gov.au
@RebeccaVassarot RebeccaVassarottiACT

- Changes to habitat resulting from synthetic turf installation replacing grass or vegetation may include habitat loss, disruption of ecological functions, and increased heat. Measures to mitigate these impacts are discussed in the Review. The value of strategic planting of vegetation is highlighted as ameliorating habitat loss and heat effects on fauna and is broadly effective across a range of habitats.

Other potential negative impacts discussed in the NSW review that are of interest include:
- increased fire risk, especially in bushfire zones;
- risk of deteriorating synthetic turf fields and end-of-life planning and disposal;
- longer-term climate and heat projections – requiring research into new alternative materials and/or best practice natural turf management, while mitigating environmental risk in existing and planned synthetic turf installations.

**(b) Can artificial grass be recycled if it eventually ends up in landfill?**

Artificial grass cannot currently be recycled within the ACT. If disposal is required, artificial grass must be sent to landfill. In line with circular economy objectives of maintaining resources in circulation, options to re-use or repurpose of artificial grass should be explored where possible before being diverted to landfill.

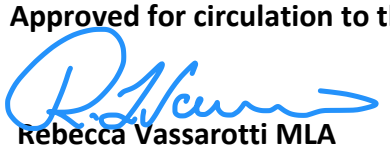
**(c) How artificial grass impacts the urban heat island effect**

Artificial grass absorbs greater levels of solar radiation than comparative levels of living infrastructure such as grass or plantings. Consequently, it can reach very high surface temperatures that contribute to the urban heat island effect:

- Studies of the use of artificial grass in playgrounds in Sydney found that, when exposed to sunlight, artificial grass can heat up to temperatures greater than 80°C even when the ambient temperature is less than 30°C.
- Interim findings from a study in the ACT also suggest that artificial grass will contribute to the urban heat island effect in Canberra. The ACT Government has partnered with CSIRO on a project to measure the effectiveness of different kinds of living infrastructure at cooling the surrounding environment. As part of this study, temperature and humidity sensors were installed by areas with artificial grass. Even though the ACT experienced a cool and wet summer, the artificial grass was at times 3°C hotter than adjacent garden beds during the day in this period.

The temperature of artificial grass will continue to be monitored over this coming summer to compare the results of a cool, wet La Niña summer with the dryer and hotter conditions typically associated with an El Niño summer. Following the delivery of the final report, expected in early 2024, the findings will be able to inform any ACT Government policy development to mitigate the urban heat risks posed by artificial grass.

**Approved for circulation to the Member and incorporation into Hansard.**



**Rebecca Vassarotti MLA**
**Minister for the Environment, Parks and Land Management**

13/12/2023

This response required 85 mins to complete, at an approximate cost of $155.71.