POLICY BRIEFING

NO PLASTICS IN NATURE • JULY 2022

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DISPOSABLE COFFEE CUPS: OUR UNHEALTHY ADDICTION

Australians are fiercely proud of our coffee culture. We appreciate great coffee, we make great coffee, and we value the cafes and baristas that are part of many Australians' daily lives and great pleasures. But our national obsession with great quality coffee has an unfortunate side effect: the disposable cup. Designed to be used once and tossed, cups and lids are contributing large quantities of waste to landfill and are frequently littered.

Previous estimates put our national coffee cup consumption at around one billion cups per year. But recent research has found the actual figure is closer to two billion[1] – making them one of the most used single-use plastic items in the country. The majority are landfilled; many are littered and become plastic pollution. Once in the environment they break up into microplastics, which cause lasting harm to wildlife and marine ecosystems.

While many states and territories have moved to phase out a wide range of single-use plastics, coffee cups are being put in the too hard basket. This briefing makes the case for concerted effort to drive our reusable coffee cup economy and drastically reduce coffee cup waste. Working together, we can keep our obsession with great coffee, ditch our wasteful and destructive habits, and support Australian innovation.

WHAT'S THE PROBLEM?

Australians generate around 22,500 tonnes of hot cup[2] waste annually. This equates to an average of 3,500 cups per minute, and a staggering 1.84 billion cups per year. Paper-based disposable coffee cups are generally made with virgin paper and lined with plastic (petroleum-based or bioplastic). They are not widely accepted for recycling with paper and cardboard. They are used for several minutes, then the cup and lid are discarded.

Plastic foodware, including cups and lids, are consistently in the top six groups of littered items in Australia.[3] If not retrieved, they decompose over time with the plastic element breaking up into microplastics, entering our waterways, oceans and soil, and causing serious injury and death to wildlife. Microplastics are a harmful pollutant that are practically impossible to remove from the environment.

[1] Kyle O'Farrell et al. (2021). Annual plastic fates and flows in Australia. Envisageworks for the Department for Agriculture, Water and Environment.
[2] Ibid. For simplicity, we refer to hot cups as coffee cups in this briefing, but these also used to contain takeaway tea and hot chocolate, and other hot beverages. This figure includes all types of single-use cups, regardless of the type of lining.
[3] BCG and WWF-Australia, 2020. Plastic Revolution to Reality.

Our skyrocketing consumption of plastic means that without action, levels of plastic pollution globally will triple by 2040.[4] While tackling plastic pollution requires multiple strategies, drastically reducing our consumption of unnecessary single-use items is an important contribution to reducing the problem. This includes moving away from all unnecessary single-use products, starting with plastics, but also compostable and recyclable products. Individuals, communities and businesses can help to drive change, but government leadership is also needed.

WHAT'S BEING DONE, AND WHERE?

National agreement has been reached on eight problematic and unnecessary single-use plastic products to be phased out in Australia by 2025. States and territories have their own mechanisms and timelines for phasing these out. Coffee cups and lids are not on the nationally agreed priority list. Western Australia plans to phase out single-use plastic-lined coffee cups in 2023, and other jurisdictions are considering phasing out this product.

Other jurisdictions around the world are taking action on this waste type, as part of broader circular economy transitions, and offer a range of ambitious options that Australia should consider in terms of their suitability for our geographies, populations and circular economy objectives.

In Ireland, a bill is currently under consideration that would make it mandatory to charge for single-use cups.[5] A Parliamentary Inquiry recommended the introduction of this charge in the UK, stating 'there is no excuse for the reluctance we have seen from Government and industry to address coffee cup waste'.[6] Some major retailers including Waitrose and Starbucks are already phasing out or charging for single-use cups.[7]

All EU member states are required to establish disposable coffee cup consumption reduction targets and to monitor and report on these. In many European countries, dining in – even for a quick coffee on the way to work – is the norm. While this is a culturally entrenched practice, there is no reason why this kind of shift couldn't be achieved in Australia, with the right support and incentives.

Berkeley, California, has introduced a law banning plastic-lined cups, requiring all on-site dining to be served in reusables, and requiring businesses to charge $0.25 for single-use cups (as a separate charge, which cannot be incorporated into wider price increases).[8]

DO WE KNOW WHAT WORKS?

Studies from Australia, England and Scotland have demonstrated that interventions to decrease disposables and increase reusables can increase re-use rates between 33% and 250%, with no negative impact on drink sales. Research shows the most effective options to increase re-use are **discounts for reusables combined with a charge for disposables** (re-use rates were increased by 184% over four sites);[9] and **provision of free reusables combined with a charge on disposables** (increasing re-use rates by up to 42%).[10]

[4] Pew and Systemiq, 2021. Breaking the Plastic Wave.
[5] Circular Economy, Waste Management (Amendment) and Minerals Development (Amendment) Bill 2022, House of the Oireachtas.
[6] House of Commons Environmental Audit Committee, 2019. Disposable Packaging: Coffee Cups; p30.
[7] Maye, D., Kirwan, J. & Brunori, G., 2019. Ethics and responsibilisation in agri-food governance: the single-use plastics debate and strategies to introduce reusable coffee cups in UK retail chains. Agriculture and Human Values.
[8] City of Berkeley: https://berkeleyca.gov/doing-business/operating-berkeley/food-service/single-use-foodware-rules
[9] Lenaghan, M., Clark, W. & Middlemass, T., 2019. Cups Sold Separately Field trial and evidence review of disposable cup charges. Zero Waste Scotland.
[10] Ibid.

Sustainability messaging has limited impact on its own, but plays an important role combined with other methods. Australian research has also demonstrated the strong impact of social norms on reusable uptake,[11] i.e. the more that people are seen using reusables in public, the more likely others are to practice sustainable and pro-environmental behaviours.

Options to increase reusable uptake also include incentives (discounts for BYO cups), which evidence shows are not very effective[12], and certainly less effective compared with charging separately for disposable cups. Some businesses offer discounts for reusables in Australia and this is an excellent example of business helping to drive and support change at community level. While welcome, these efforts are not likely to achieve behaviour change needed to drive a genuine circular economy for coffee cups.

COSTS AND BENEFITS TO PEOPLE, PLANET AND BUSINESS

Cups and lids containing plastic are particularly harmful when littered, but also resource-intensive to produce. Reducing disposable cup consumption in Australia by half a billion per year – less than 30% – would deliver sizeable environmental and economic savings. Savings are estimated at $104 million in single-use cup costs to businesses (potentially more through increased revenue if more customers dine in); 11,250 tonnes of timber; and 1,650 tonnes of plastic; as well as energy and CO2 savings through reduced production and transportation of single-use products.[13]

Importantly, the proposals advocated by WWF-Australia and the Plastic Free Foundation – to dramatically decrease disposable consumption and increase uptake of refill models – are very low cost from a consumer perspective. Local councils would also achieve some savings through reduced landfill costs and litter reduction. Reduction in single-use consumption will not on its own eliminate the leakage of plastic into nature, but it will reduce the volume of disposable products in the system, and therefore the volume of leakage.

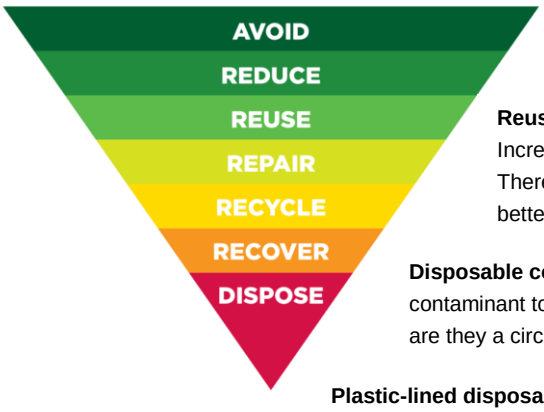
CUPS WITHIN THE WASTE HIERARCHY AND CIRCULAR ECONOMY

The waste hierarchy and circular economy principles underpin waste reduction and management policy and strategy in Australia, and many countries internationally. The waste hierarchy establishes a priority from the best to worst options for waste minimisation and disposal, with avoidance being the best option, and disposal (waste-to-energy, incineration and landfill) being the worst. A circular economy for any material – including plastic – demonstrates best pathways for valuing and maximising resources while minimising extraction and disposal.

Figure 1 maps cup and lid consumption and disposal options against the waste hierarchy. Figure 2 shows circular economy considerations in relation to these products. These considerations should underpin policy choices in relation to cups and lids, but have broader applicability to other single-use products.

[11] Lodhia, S. & Potts, A., 2021. Environment friendly takeaway coffee cup use: Individual and institutional enablers and barriers. *Journal of Cleaner Production.* 291:125271
[12] Poortinga, W. & Whittaker, L., 2018. Promoting the Use of Reusable Coffee Cups through Environmental Messaging, the Provision of Alternatives and Financial Incentives. *Sustainability*. 10(3)87 & Sandu,
[13] Estimated using KeepCup's calculator, based on a Life Cycle Assessment (LCA) by Edge Environment. The LCA has been conducted to international standard (ISO 14040:2006) and the methodology is available at https://au.keepcup.com/impact-calculator

Figure 1: Cups and the waste hierarchy[14]



Consuming on-site & reusable cups: Production, consumption and disposal are minimised. This solution is the best option in terms of alignment with both the waste hierarchy and circular economy.

Reuse/return systems (including formal and informal exchange schemes): Increasingly popular and becoming more widely available. Preferable to disposables. There are infrastructure and resourcing requirements to maintain. These systems work better in certain contexts and are not feasible in others.

Disposable compostable: These items frequently end up in landfill and are a major contaminant to recycling streams. They are not in the top half of the waste hierarchy nor are they a circular solution.

Plastic-lined disposable: Plastic-lined coffee cups (and cups made from plastic e.g. EPS) should be phased out due to frequent littering and harm to the environment. However, the focus should be on replacing these with solutions at the top of the waste hierarchy, that promote a circular economy for plastics.

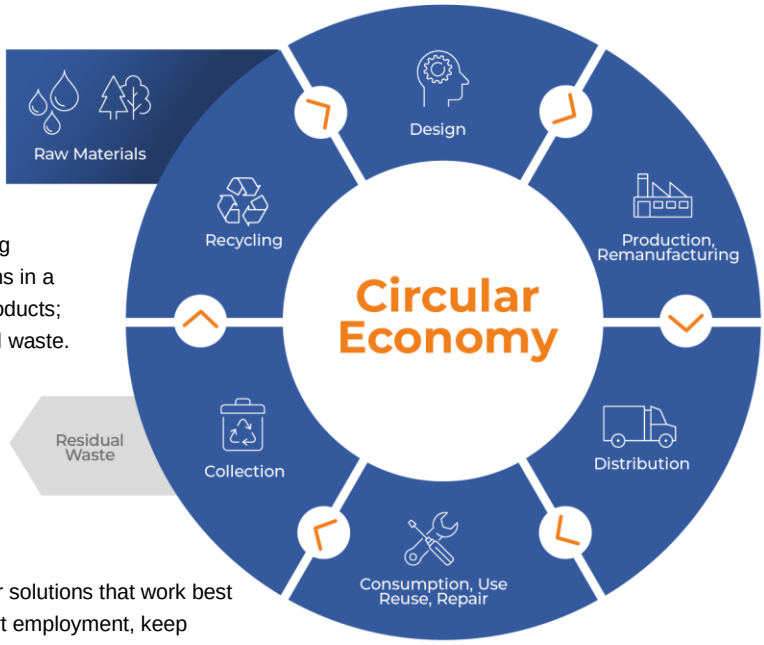
We are currently seeing a shift away from conventional plastics for coffee cups towards bioplastics and compostable cups and lids. Many retailers around the country have transitioned to compostable cups, driven by sustainability concerns rather than regulatory requirements. As noted in Figures 1 and 2, these are still single-use products and come with some specific and significant challenges.[15] However this approach, combined with higher levels of re-use and decreased use of disposables of any type, and adequate infrastructure for compostables, could provide a more circular solution compared with the status quo.

Figure 2: Cups and the circular economy

Consumption on-site & reusable cups are circular solutions. Good design maximises the use and reuse of materials and residual waste is negligible. Products should be repairable and at the end of their life, readily recyclable.

Disposable cups epitomise the linear take-make-waste economy, where resource use and waste are both maximised.

Recycling and reprocessing (including composting) are less satisfactory options in a circular economy. Some create new products; some reprocessing still creates residual waste.



Re-use/return systems are good **circu**lar solutions that work best in certain contexts. These systems support employment, keep materials circulating for as long as possible, and minimise waste.

[14] Diagrams sourced from the Northern Adelaide Waste Management Authority and the Ellen Macarthur Foundation.

[15] Collacott, L. 'We need compostable packaging, but it's still single-use', 26 May 2022. Ellen Macarthur Foundation.

COVID SAFETY

Use of disposable plastic products has increased during the global pandemic, due to uncertainty about safety of reusables and confusion over regulations and requirements. Many businesses refused to take reusable coffee cups over this period, and despite evidence of very low risk, combined with increasing vaccination levels and reduced restrictions, there are still residual questions and confusion over what the most Covid-safe hospitality practices and products are.

In 2020, around 120 health experts from more than 20 countries endorsed a Statement Addressing Safety of Reusables and COVID-19. This evidence-based statement found surface contact to be relatively low risk for transmitting COVID-19 and that disposable products have a similar risk profile to reusable ones. They argued 'it is clear that reusable systems can be used safely by employing basic hygiene' and set out best practices for reusable products in the retail space.

One of Australia's pre-eminent epidemiologists, Professor Mary-Louise McLaws, stated at the height of the pandemic that 'As long as baristas are practising good hand hygiene … are regularly washing their hands and not touching the rim of the cups then they should still be used. … We can do two things at once – take care of our health and reduce our impact on the environment. There is simply no excuse.'[16]

Several governments have specifically addressed this issue in written guidance. Victorian Government FAQ in March 2020 that there is 'no evidence to suggest there is any [health] benefit in switching to disposables'. Victorian guidance states that 'the use of reusable cups is encouraged as an essential part of reducing the use of single-use plastics' and 'the use of crockery, cutlery and glassware pose an extremely low risk of coronavirus (COVID-19) transmission'.[17]

TOWARDS SOLUTIONS

WWF-Australia and the Plastic Free Foundation envisage a future for Australia where single-use cups, lids and other items are a relic of the past, and where the social norm is to bring your own, borrow/rent or dine-in.[18] While there is strong interest and momentum from individuals, businesses and communities to reduce plastic consumption and increase reusables, there are limits to what voluntary action can achieve. Multiple interventions are needed to achieve systemic change and regulation – beyond phase-outs – is an essential driver to reduce single-use plastic waste of all types.

Governments around the world are increasingly recognising the importance of circular economy transition and proactively driving this process, including several Australian state and territory governments that are investing substantial time and resources in this process. This paper focuses on the particular challenge of coffee cups and lids, and offers the following recommendations for consideration by governments at all levels:

- **Advocate for a mandatory plastic waste reduction target for Australia.** Australia's 2025 Packaging Targets are being reviewed this year to assess progress and opportunities to strengthen. WWF-Australia and the Plastic Free Foundation support the introduction of a mandatory target for plastic waste reduction.[19] This would support the national target of waste reduction per capita by 10% by 2030.
- **Ensure that waste reduction is the primary aim, supported by bans and other mechanisms.** The waste hierarchy underpins waste regulation at all levels of government, and recent reform at local,

[16] Atherfold Finn, J. and Prince-Ruiz, R. (2020). Plastic Free: The inspiring story of a global movement and why it matters. 244-255
[17] Department of Health and Human Services, 2020. 'How to safely use and clean cutlery, crockery and miscellaneous items'.
[18] Companies like Returnr, GreenCaffeen, HuskeeSwap, Cercle already offer these services, which are poised to scale up.
[19] Further work is required to establish this target, which evidence suggests could realistically be set as high as 60%.

state/territory and national levels integrates circular economy principles. WWF-Australia and the Plastic Free Foundation believe single-use plastic product bans should be combined with strong consumption reduction efforts, to avoid a widespread shift to other single-use, disposable materials.

- **Strengthen the accountability of producers and retailers.** Phasing out some of the most problematic single-use plastics is an important first step; further strengthening producer responsibility would help to drive waste reduction and circularity. There are numerous extended producer responsibility approaches to consider from other jurisdictions, including in the EU, UK and the US, that state and territory governments could usefully consider.
- **Consider mandating charging separately for coffee (the beverage) and containers (cups and lids).** Evidence shows this – combined with other measures – is the most effective way to drive systemic change. WWF-Australia and the Plastic Free Foundation support this measure as an evidence-based, complementary mechanisms to phase-outs, to drive reduction of disposables and uptake of reusables.
- **Issue clear health guidance for businesses regarding COVID safety.** WWF-Australia and the Plastic Free Foundation would welcome clear guidance from all state and territory health departments regarding safe practices for re-usable items, and clarifying that disposables do not represent a 'safe' option.
- **Support communities, individuals and businesses** to make change at a local level. This includes investment in communication and outreach to help businesses become more sustainable. It could also include incentives such as grant programs and tax breaks to scale-up rent, return and repair schemes.

In addition to reducing the vast amounts of plastic we consume, circular economy transition can help to grow sustainable businesses and support systemic and widespread behaviour change needed to reduce waste and plastic pollution, while still enjoying some of the best coffee in the world.

Working to sustain the natural world for the benefit of people and wildlife.

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