plastic wise

Submission to Parliamentary Inquiry into the waste and recycling industry in Australia
20 October 2017

To the Committee Secretary

Please see below a submission from Plasticwise to the Parliamentary Inquiry into the waste and recycling industry for your consideration.

If you would like any further information or detail in relation to this submission, please do not hesitate to contact us by email . We are committed to working collaboratively with government and industry on these issues, and can provide further support and advice as required.

Background on Plasticwise and our grassroots movement

Plasticwise is a peak representative organisation for a fast growing network of plasticwise community action groups. We are collectively raising awareness about waste and running a range of community projects to reduce the amount of plastic ending up in landfill and our oceans. There are currently 15 plasticwise branches including one international branch (Gizo, Soloman Islands). You can find us on Facebook for more information. Each plasticwise branch is autonomous, but we are united by the same goal to mobilise our communities to take action on waste and reduce plastic pollution.

Our committed volunteers have sewn over 3000 bags from recycled materials, diverting old fabric, linen, curtains and clothes from landfill. Our bags support customers and retailers through the transition away from plastic bags. So far, we have supported 15 supermarkets to go plastic bag free. We have reached over 1500 school children across Australia, providing education on plastic pollution and the importance of waste reduction.

The problems with plastic

The increasing production of plastic is causing severe environmental issues across the globe, including high energy demand during plastic production, use of petroleum and the accumulation of plastic waste in our landfills and oceans. Plasticwise is particularly concerned about this issue as production of a non biodegradable product containing harmful chemicals has been allowed to continue unchecked, despite no effective or safe way of disposing of it.

We have made more than 8.3 billion tons of plastic since the 1950s and most of this is in our oceans and landfill.[1] For example, only 5% of plastic packaging is recycled.[2] This means that

[1] https://www sc enceda y com/re eases/2017/07/170719140939 htm
[2] https://www e enmacarthurfoundat on org/assets/down oads/E enMacArthurFoundat on TheNewP ast csEconomy 15 3 16 pdf

95% of the value of plastic packaging material, worth $80 120 billion annually, is lost to the economy.[3]

Plastic production is increasing exponentially – over the last decade we have produced twice as much plastic as we produced over the last 50 years.[4] The Ellen Macarthur Foundation predicts that by 2050 oceans will contain more plastics than fish (by weight), and the entire plastics industry will consume 20% of total oil production. The industry will also consume 15% of the annual carbon budget, which must be adhered to in order for us to remain below a 2°C increase in global temperatures.[5]

Plastics are made from a polymer mixed with a complex blend of additives such as stabilisers, plasticisers and pigments.[6] Studies have shown the harmful impact that exposure to some of these chemicals (particularly Bisphenol A and certain phthalates) can have on human health,[7] including reproductive issues, cancers, obesity, diabetes and heart disease. At least 8 million tonnes of plastic ends up in the ocean each year,[8] and it is estimated that around 225,000 tonnes of these plastic additives including stabilisers, plasticisers and pigments are being released into the ocean annually.[9] Plastics in the ocean not only release chemicals and additives, but also act like a sponge and attract hydrophobic substances from the marine environment, such as polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs).[10]

Studies have also shown that the chemicals released into the ocean from plastic pollution are entering the food chain.[11] Plastic in the ocean never breaks down, but breaks apart into smaller and smaller pieces ending up as micro plastic. Plastics and micro plastics are now ingested by almost all marine creatures from zooplankton to sea birds and the largest whales, including fish destined for the seafood market. Once ingested, plastic additives and other chemicals leach out into the blood stream and flesh of fish and other marine life,

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[6] https://www e enmacarthurfoundat on org/assets/down oads/E enMacArthurFoundat on TheNewP ast csEconomy 15 3 16 pdf
[7] S H Swan et a , *First trimester phthalate exposure and anogenital distance in newborns* (Human Reproduct on, Oxford Journa s, 2015); Y J L en et a , *Prenatal exposure to phthalate esters and behavioral syndromes in children at 8 years of age: Taiwan Maternal and Infant Cohort Study* (Env ronmenta Hea th Perspect ves, 2015); K M Rodgers, *Phthalates in Food Packaging, Consumer Products, and Indoor Environment* (Tox cants n Food Packag ng and Househo d P ast cs, Mo ecu ar and ntegrat ve Tox co ogy, Spr nger, 2014); K C Makr s et a , *Association between water consumption from polycarbonate containers and bisphenol A intake during harsh environmental conditions in Summer* (Env ronmenta Sc ence & Techno ogy 47, 2013); R A Rude et a , *Food Packaging and Bisphenol A and Bis (2 Ethyhexyl) Phthalate Exposure: Findings from a Dietary Intervention* (Env ronmenta Hea th Perspect ves 119, 2011); J L Carw e et a , *Polycarbonate Bottle Use and Urinary Bisphenol A Concentrations* (Env ronmenta Hea th Perspect ves 117, 2009); E L Teuten et a , *Transport and release of chemicals from plastics to the environment and to wildlife* (Ph osoph ca Transact ons of the Roya Soc ety: P ast cs, the env ronment and human hea th, 2009); C Kubwabo et a , *Migration of bisphenol A from plastic baby bottles, baby bottle liners and reusable polycarbonate drinking bottles* (Food Add t ves & Contam nants 26, 2009)
[8] https://www sc enceda y com/re eases/2015/02/150212154422 htm
[9] https://www e enmacarthurfoundat on org/assets/down oads/E enMacArthurFoundat on TheNewP ast csEconomy 15 3 16 pdf
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which is then eaten by humans. We are increasingly being exposed to the chemicals contained in plastics through our diet.[12] In addition, micro plastics have been found in tap water,[13] and sea salt[14] in recent months.

Plastic waste is also poisoning our groundwater. Buried beneath landfills across the globe is plastic leachate, which is full of the same toxic chemicals as mentioned above. This leachate is seeping into groundwater and flowing downstream into lakes and rivers, and our ocean.[15]

Problems with the plastic recycling industry

Recycling plastic reduces the amount of plastic waste in our landfill and our environment. However, only around 9% of all plastic produced since the 1950s has been recycled. In Australia, only 14% of all plastic was recovered for recycling in 2014 15.[16] For some types of plastic, this statistic is even lower. For example, plastic packaging is almost exclusively single use,[17] and only 3% of plastic bags are recycled in Australia.[18] In addition, plastics that do get recycled are mostly recycled into lower value types of plastic that are not recyclable again.[19] There is no closed loop with recycling plastic – a plastic bottle cannot be recycled and turned into another plastic bottle, reducing the need for production of new plastic bottles.

Despite low plastic recycling rates, Plasticwise does not currently propose that recycled plastic be relied upon more broadly, or be encouraged in our community on a wider scale until there have been major changes to the plastic recycling industry. The changes we need to see before we can encourage plastic recycling on a broader scale include increased transparency over how much of our plastic gets recycled, where it ends up and where it gets used, increased local (within Australia) plastic recycling, a safe manufacturing process, and regulations around the use of recycled plastics in food packaging. Our reasons for these concerns are outlined below.

The development of safe, efficient and clean recycling processes on an industrial scale is widely recognised as a major challenge to the plastic recycling industry.[20] Due to the high cost associated with sorting and processing plastic for recycling, most of our recyclable plastic in Australia (along with many other developed countries) is sold to scrap plastic exporters who sell it to companies primarily based in developing countries in Asia.[21]

[12] http://www te egraph co uk/sc ence/2017/01/24/seafood eaters ngest 11000 t ny p eces p ast c every year study/
[13] https://www theguard an com/env ronment/2017/sep/06/p ast c f bres found tap water around wor d study revea s
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The plastic recycling collected from our kerbside recycling bins in Australia is virtually impossible to trace to its end destination. There is a lack of transparency at the end of the supply chain. China is currently the leading global importing country for waste scrap plastics, importing a total of 7,347,175,529 kilograms in 2016 alone.[22] Plasticwise understands that China (along with a number of other developing countries in Asia) is currently the main destination for most of Australia's recyclable plastic. The United Nations reports that Australia exported 199,743,093 kilograms of waste scrap plastic in 2016, and of this amount, 41,983,913 kilograms was exported directly to China.[23]

Plasticwise understands that once our plastic ends up overseas, it is traded in thousands of small lots to small unregistered facilities and families that make a living from sorting it by hand, cleaning it with caustic chemicals, shredding and melting it down using low tech equipment and processing it to produce recycled plastic. There are no rules for operation, no quality standards and no inspection processes.[24] Studies have shown that health and safety may not be adequately addressed in the plastic recycling industry, with employees and the surrounding community exposed to noise, hazardous cleaning chemicals and plastic chemical fumes.[25] Some articles estimate that there are more than 60,000 unregistered family run plastic manufacturers based in China alone.[26] For further detail on the environmental, health and safety conditions at plastic recycling facilities in developing countries, see the documentary Plastic China[27] and a number of articles providing anecdotal information on the devastating health and environmental implications of the plastic recycling industry in developing countries.[28]

It is also worth noting that China has recently announced a ban on importing 'foreign rubbish' for environmental and public health reasons.[29] Given the amount of waste scrap plastic that we currently export to China, this will inevitably have a flow on effect in Australia. For example, it will likely result in a lower commodity price for waste scrap plastic, resulting in increased stockpiling of plastic waste in Australian recycling storage facilities.[30] This will also result in an increase in recyclable plastic ending up in landfill.

Once our plastic has been turned into recycled recycled plastic overseas, it is sold to manufacturers to be used again. Plasticwise understands that there are few regulations or checks involved in this process, which means that there is nothing to stop industrial plastics

[22] https://comtrade un org/data/
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[25] Staffe d R, and Ku ke E 2011 nforma emp oyment and hea th cond t ons n Dhaka's p ast c recyc ng and process ng ndustry n: Hea th n megac t es and urban areas A Krämer, M H Khan and F Kraas, eds Spr nger Ver ag, Ber n He de berg
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containing heavy metals and other contaminants ending up in food and drink packaging. In a number of studies, phthalates, heavy metals and brominated flame retardants have been identified in recycled plastics used in plastic food packaging.[31] Given the current lack of transparency and regulation governing the overseas plastic recycling industry that we have just outlined, it is clear that there are many possible sources of contamination of plastic through the recycling process. The US and the EU have placed restrictions on the use of recycled plastic in food packaging.[32] We understand that legislation in Australia currently does not prohibit or limit the use of recycled plastic in food packaging.[33]

The plasticwise solution

The solution to all of these issues is so simple. We need to urgently reduce the production and use of single use, disposable, plastics (including plastic packaging) until we have a safe, efficient and effective way to either dispose of or recycle these products. Single use disposable plastic items are so unnecessary. There are many alternative products that could be used instead, that are similarly cheap and convenient, but do not have the same environmental and health implications as petroleum based plastics.

Our network of plasticwise branches are working hard with our local communities to educate and encourage individuals to reduce, reuse and then recycle plastic as a last resort. However, placing all of the responsibility to address this critical issue on consumers and individuals is not fair, nor will it result in the widespread changes that we need.[34] We strongly believe that we all have a role to play in addressing this issue, including governments and the private sector. We need to work as a team! We strongly urge the Australian Government to think beyond just cleaning up marine debris and developing voluntary codes of conduct with the packaging industry.[35] We need change now and every day makes a difference. Without a nationally consistent approach that focusses on reducing production and consumption of single use disposable plastic and plastic packaging, we will be cleaning up our beaches and oceans forever.

Movement in this direction is already occurring in Australia and around the world. Many businesses are taking steps to contribute towards reducing the use and consumption of single use plastics. For example, many shops and retailers are voluntarily going plastic bag free, even in Victoria where the State government has only just banned plastic bags.[36] The

[31] http://www foodpackag ngforum org/food packag ng hea th/p ast c recyc ng refers to the fo ow ng stud es:
Cheng X, Sh H, Adams CD, et a 2010 Assessment of meta contam nat ons each ng out from recyc ng p ast c bott es upon treatments Env ron Sc Po ut Res nt 17:1323 30; Wh tt M, Vorst K, Brown W, et a 2013 Su vey of heavy meta contam nat on n recyc ed po yethy ene terephtha ate used for food packag ng J P ast F m Sheet 29:163 73; Samsonek J, and Puype F 2013 Occurrence of brom nated f ame retardants n b ack thermo cups and se ected k tchen utens s purchased on the European market Food Add t Contam A 30:1976 86

[32] https://www foodstandards gov au/code/proposa s/Documents/P1034 Packag ng CFS SD2 pdf

[33] https://www eg s at on gov au/Deta s/F2016C00167; https://www eg s at on gov au/Deta s/F2014C01204

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[36] http://www sbs com au/news/art c e/2017/10/18/p ast c bag ban set 2018 v ctor a

City of Hobart recently voted (10 votes to 1) to ban single use plastic takeaway packaging by 2020, which will include setting up local commercial composting facilities to manage the increase in compostable packaging waste that will be produced as a result of this decision. France has also just announced that it will ban single use plastic takeaway cups, cutlery and plates by 2020, requiring them to be replaced with compostable alternatives. Costa Rica recently announced a national strategy to ban single use plastic items across the country by 2021[37] which will cover plastic bags, straws, coffee cups and stirrers, containers, and cutlery. Chile,[38] Hawaii[39] and Kenya[40] have recently banned plastic bags nationally.

Given the huge impact that single use plastic has on the environment, and the fact that we currently do not have an effective or safe way to dispose of it, we urge the Australian government to take steps to reduce production and consumption of single use plastics by implementing the following reforms:

1. A national phase out to a complete ban of all single use plastic bags and other disposable plastic items (takeaway cups, takeaway packaging, plates, cutlery, straws etc) which can be replaced with either reusable or compostable alternatives
2. Investment in composting facilities to manage the increase in compostable packaging
3. Investment in reprocessing capacity for recycled plastics based in Australia which should be combined with legislation setting an amount in plastic products sold for Australian produced recycled plastics
4. Limits placed on the amount of unnecessary plastic food packaging used. Plastic packaging producers and supermarkets need to reduce the amount of plastic packaging that they use, and be responsible for ensuring effective recycling of plastic packaging through product stewardship legislation (mandatory, not voluntary)
5. In addition, we need a nationally consistent waste levy across all states and territories to put a more accurate price on disposing of materials such as plastic in landfill. This will create a range of opportunities for our community and encourage us to think creatively about how we reduce the amount of waste we produce. As outlined in the Four Corners expose on the recycling industry,[41] attempts by state and territory governments to put in place levies are undermined when this levy is not applied across Australia. The national waste levy needs to be significant (similar to the NSW levy which we understand to be currently $138.20 per tonne)

Kind regards
Plasticwise Directors

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