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## **Submission: Reducing the impact of plastic on our environment – moving away from hard-to recycle and single-use items**

### **General Introduction**

1. Our Seas Our Future (“OSOF”) is a not-for-profit organisation that aims to protect New Zealand’s coastal and marine ecosystems through advocacy, education, and environmental stewardship, ensuring that they are managed sustainably and protected for future generations.
2. Our membership includes a diverse group of science practitioners, professionals, and specialist researchers working in ecology related fields, as well as marine conservation and sustainable development.
3. OSOF supports the overall proposal for a mandatory phase-out of hard-to-recycle plastic packaging and single-use plastic items, which will better align us with current international best practice to protect our natural environment and marine life from the impacts of plastic waste.
4. OSOF welcomes the opportunity to comment on the open consultation on reducing the impact of plastic on our environment.

# Our Submission

## Key Issues

Plastic waste represents a critical threat to our natural ecosystems and marine biodiversity, impacting on human and planetary health.

The presence of marine plastics in ocean waters has significantly jeopardised the survival of marine wildlife and protected species, with deaths due to ingestion, asphyxiation, and starvation due to plastic debris well-documented and commonplace.<sup>1</sup> Seabirds, whales, fish and other marine species suffer injuries, infections, and chronic impairments from the presence of plastic pollutants in their habitats.<sup>2</sup> In addition, plastics can severely harm the balance of natural ecosystems and traditional seafood resources by enabling the spread of toxic organisms, and bacteria.<sup>3</sup> The literature on marine debris indicates that plastics make-up most of the marine litter worldwide.<sup>4</sup>

Further, virgin-plastic production generates wasteful amounts of carbon, and is projected to use up 10–15% of our entire carbon budget by 2050 at current rates of growth.<sup>5</sup> This will have dire consequences for the health of our oceans and coastal ecosystems, already subject to intensifying carbon pollution. Ocean acidification occurs due to high concentrations of hydrogen ions alongside decreasing carbonate ions, a function of increased carbon dioxide levels. Various marine and fish species, such as mussels, crabs, as well as corals, depend on carbonate ions to grow their shells and skeletons for survival.<sup>6</sup> With highly acidic waters and a reduction in minerals critical for the survival of a variety of marine species, the sustainability of our fisheries and marine ecosystems in the future are at risk.<sup>7</sup>

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<sup>1</sup> Derraik, J. G. (2002). The pollution of the marine environment by plastic debris: a review. *Marine pollution bulletin*, 44(9), 842-852.

<sup>2</sup> <https://www.hakaimagazine.com/news/plastics-are-messing-with-fish-physiology/>

<sup>3</sup> Gregory, M. R. (1999). Plastics and South Pacific Island shores: environmental implications. *Ocean & Coastal Management*, 42(6-7), 603-615.

<sup>4</sup> Derraik, J. G. (2002). The pollution of the marine environment by plastic debris: a review. *Marine pollution bulletin*, 44(9), 842-852.

<sup>5</sup> [https://talking-trash.com/wp-content/uploads/2020/09/TalkingTrash\\_FullReport.pdf](https://talking-trash.com/wp-content/uploads/2020/09/TalkingTrash_FullReport.pdf)

<sup>6</sup> <https://www.ucsusa.org/resources/co2-and-ocean-acidification>

<sup>7</sup> <https://niwa.co.nz/research-subject/ocean-acidification>

The processing and management of plastic waste is an additional risk for human and environmental health. Increasing evidence has indicated probable risks from toxic microplastics ingested by humans, animals and plants, and thus merit consideration in the context of future population health burdens for our country.

## Policy objectives

### **Have we identified the correct objectives? If not, why?**

The Government can force industry practices to adapt to reuse systems across material types, as industry-led initiatives such as soft plastics recycling have faltered. The waste hierarchy on page 20 (fig 4) of the consultation document places 'refuse' above 'reduce'; this seems to indicate that consumers and ratepayers have sufficient choice and power to refuse to buy a product because of the plastic packaging or the materials it is made of. The range of products on offer (from design, to manufacture, to packaging and also marketing) are determined by industry. Consumers therefore can only realistically have the ability to 'refuse' if more sustainable options are on offer.

Importantly, international evidence shows that many companies continue to utilise materials that cannot be recycled, or recycled at scale – placing the onus of responsibility on consumers when they have little choice afforded to them.<sup>8</sup> Manufacturing incentives and/or deterrents need to drive the change, with regulatory reform aimed at providing supply consumers with genuinely sustainable alternatives.

We support a general objective to make affordable reuse alternatives accessible across Aotearoa New Zealand, as well as supporting communities to benefit from the increased employment opportunities that reuse economies offer. Government should also look internationally to legislation implemented by countries who have delivered on a plastic-free sustainability agenda, including EU member states that have incorporated tracking and including disposable plastic in hazardous waste legislation.

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<sup>8</sup> [https://talking-trash.com/wp-content/uploads/2020/09/TalkingTrash\\_FullReport.pdf](https://talking-trash.com/wp-content/uploads/2020/09/TalkingTrash_FullReport.pdf)

## Options for shifting away from hard-to-recycle and single-use plastics

**Do you agree with our assessment of the options, and our decision to take forward only one option (a mandatory phase-out)? If not, why?**

It has already been well established that marine species and marine ecosystems are already affected by plastic waste, including species of higher trophic levels<sup>9</sup> and lower, crucial trophic species.<sup>10</sup> This also includes evidence of trophic transfer across food-webs, potentially to highest trophic species, such as humans.<sup>11</sup> It has additionally been recommended that plastics should be subject to higher levels of monitoring and reporting which other hazardous waste materials are subject to, due to their deleterious nature.<sup>12</sup> Due to the high potential to negatively impact New Zealand ecosystems and ecosystem services, which also has significant economic impacts for our country, OSOF fully endorses a mandatory phase-out of plastics.

As it stands, the present proposal presents no comprehensive option to incentivise the manufacture and use of compostable alternatives (for instance, paper packaging on food products). Incentives could include tax and GST exemptions for companies who produce green packaging that meets certain requirements as an effective way to promote industry-adoption of greener packaging.

The government could also incentivise and support emerging businesses, as well as research initiatives in developing other forms of sustainable packaging, for example from seaweed.<sup>13</sup> This potentially has added benefits that are showing to arise from seaweed farming, such as

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<sup>9</sup> Farrell, P., Nelson, K., 2013. Trophic level transfer of microplastic: *Mytilus edulis* (L.) to *Carcinus maenas* (L.). *Environmental Pollution*. 177, 1-3.

Merick, A. (2018). Doctoral Thesis, University of Auckland.

<sup>10</sup> Reisser, J., Shaw, J., Hallegraeff, G., Proietti, M., Barnes, D.K.A., Thums, M., Wilcox, C., Hardesty, B.D., Pattiaratchi, C. (2014). Millimeter-sized marine plastics: a new Pelagic habitat for Microorganisms and invertebrates. *PLoS One*. 9 (6), e100289.

<sup>11</sup> Farrell, P., Nelson, K., 2013. Trophic level transfer of microplastic: *Mytilus edulis* (L.) to *Carcinus maenas* (L.). *Environmental Pollution*. 177, 1-3.

<sup>12</sup> Steensgaard, M., a, Syberg, K., Rist, S., Hartmann, N. B., Boldrin, A., Hansen, S. F. (2016). From macro- to microplastics - Analysis of EU regulation along the life cycle of plastic bags. *Environmental Pollution*. 224, 289-299.

<sup>13</sup> <https://cordis.europa.eu/article/id/170424-seaweed-a-sustainable-source-of-bioplastics>

carbon sequestration and the production of sustainable seafood.<sup>14</sup> There are opportunities to move from issue-specific policy towards more holistic policies that aim to tackle multiple interrelated issues to do with the marine environment, pollution, food security and climate change.

Addressing plastic waste cannot stop at banning select single use items and needs to be part of a whole-of-system approach (similar to the EU Directive on single use plastics which addresses market restriction, product design, labelling, public awareness raising and product stewardship).<sup>15</sup>

**Do you think we should include all PVC and hard polystyrene packaging in stage 2 of the phase-out (eg, not just food and beverage and EPS packaging)? Please explain your answer.**

We advocate a consistent approach across the sectors in moving towards a zero plastic economy, particularly as we believe a full transition will make it easier and more viable for manufacturers and for our recycling systems in the long-term. Furthermore, we should take advantage of this opportunity and momentum to make substantial changes as these plastics will continue to have a detrimental effect on our environment. Examples such as the Fox River landfill disaster earlier this year and the Cobden Beach landfill breach in 2018 demonstrate that our current waste model of landfills is inadequate and dangerous. These failures have impacts that will be felt for generations, and we cannot afford to continue relying on this outdated and unsustainable system.<sup>16</sup>

**Do you believe there are practical alternatives to replace hard-to-recycle packaging (PVC, polystyrene and EPS)? If not, why?**

Yes, there are a range of feasible alternatives available, such as compostable polystyrene substitutes used overseas. The building industry should not be exempt from rulings to reduce plastic waste – particularly as construction and demolition waste makes up 40–50 percent of New Zealand's total waste going to landfill, industries should be supported to

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<sup>14</sup> <https://www.greenwave.org/our-model>

<sup>15</sup> Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment [2019] OJ L115/1.

<sup>16</sup> <https://www.sciencemediacentre.co.nz/2019/04/09/west-coast-landfill-erosion-expert-reaction/>

innovate for sustainable and long-term alternatives. In particular, we would like to see targeted measures aimed at the industrial and commercial use of plastics in fishing nets, plastic wrap and strapping used in freight, and plastic building wrap used in construction. These materials have been directly linked to excess deaths and debilitation of wildlife through entanglement and ingestion.

We agree with the list of examples of practical alternatives set out in Table 5.

**What would help to make it easier for you and your family, or your business/organisation to move away from hard-to-recycle plastic packaging and use higher value materials or reusable/refillable alternatives?**

We would like to see more concerted education and awareness campaigns (targeted at industry actors in particular) outlining the serious adverse impacts of plastic pollutants on human and planetary health, as well as the significant economic risks posed by overreliance on such materials. We recognise that the Government can and should influence consumers to adopt more environmentally conscious practices, and improve collective attitudes amongst people in achieving sustainability goals.

We would support more consistency in kerbside recycling schemes and plastic waste management for communities, particularly residential hubs, and more accessible alternative options for people that are low-cost and locally available.