

Report on policies and proposals relating to plastic pollution and packaging waste

June 2019



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Report on policies and proposals relating to plastic pollution and packaging waste

June 2019



About the Committee

The Committee was established on 28 June 2016. Its remit can be found at:
www.assembly.wales/SeneddCCERA

Committee Chair:



Mike Hedges AM

Welsh Labour
Swansea East

Current Committee membership:



Andrew RT Davies AM

Welsh Conservatives
South Wales Central



John Griffiths AM

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Jenny Rathbone AM

Welsh Labour
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Joyce Watson AM

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The following Member was also a member of the Committee during this inquiry.



Gareth Bennett AM

UKIP Wales
South Wales Central

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Chair's foreword

Plastic pollution is one of the greatest challenges facing our planet. Wales can't solve this global problem on its own, but we cannot wait any longer, it's important that we step up and take a lead where we can.

Gannets strangled by plastic on an uninhabited Welsh Island; sweet wrappers and plastic bags found seven miles under the ocean; plastics in the guts of dead fish, sea birds and marine mammals. Distressing images such as these are becoming increasingly familiar. It is becoming more difficult to ignore the damage we are doing to our planet.

Microplastics are everywhere – in our soils, rivers and seas – even in Arctic sea ice. They are known to be ingested by organisms throughout the food chain. A study by Cardiff University found that one in every two insects in the Taff river system contained microplastics, and there is evidence that these microplastic particles are also being ingested by river birds..

We have recently seen mass public demonstrations, involving both young and old, to demand action from government. They realise, as we do, that we are in the midst of an environmental crisis: climate change, plastic pollution, biodiversity devastation. We need change at a systemic level if we are to meet this challenge. And we are running out of time.

In April 2019, the Welsh Government declared a “climate emergency”. We commend this. But overall, we are disappointed that the Welsh Government is not getting to grips with the scale of the problem. We shouldn't wait for others and must take the lead where we can. The public are supportive – we must harness their energy and enthusiasm and bring forward ambitious and transformative policies.

This report sets out a blueprint for the Welsh Government to do exactly that. At its heart is a 10-year strategy to reduce plastic use and pollution. We must look at legislative interventions, and introduce an ambitious deposit return scheme. We must also ensure that the producer meets the end of life costs arising from their products, not the citizen.

We cannot waste another day. The time to act is now.

Recommendations

Recommendation 1. More research is needed to address knowledge gaps in relation to nano and microplastics in Welsh waters. The Welsh Government should explore how such research can be supported, so that its policy interventions are informed by the latest knowledge.Page 20

Recommendation 2. The Welsh Government should explore how an EPR approach can be applied to the clothing industry, with the specific aim of reducing levels of microfibre release through washing. It should undertake this exploratory work and report back to this Committee within the next 6 months, setting out its initial views on this proposal.Page 20

Recommendation 3. The Welsh Government should explore whether legislation can be introduced to restrict access to certain products that contribute to microplastics pollution through the waste water treatment pathways, such as non-biodegradable wet wipes. It should undertake this exploratory work and report back to this Committee within the next 6 months, setting out its initial views on this proposal.Page 20

Recommendation 4. We were concerned to hear about the issues relating to the use of tyre infill on sport pitches and play areas. The Welsh Government should commission further research in this area and should explore how it can assist local authorities to address the negative impacts of the use of tyre infill. Page 21

Recommendation 5. The Welsh Government should explore approaches to reduce the amount of fishing gear discarded in the sea and encourage the retrieval of lost fishing gear, including awareness raising measures and the use of geotagging and sonar technology for tracking gear. The Welsh Government should also explore the potential inclusion of fishing gear in a future extended producer responsibility scheme. Page 21

Recommendation 6. The Welsh Government should prepare and publish a 10 year, comprehensive and ambitious strategy aimed at reducing plastic pollution. The strategy should be developed with stakeholders and include targets and milestones. It must make clear linkages with other policy areas, such as waste management and “green” procurement.Page 29

Recommendation 7. The proposed strategy must ensure that policies to reduce plastic pollution prioritise reduction, then reuse, with recycling as a last resort if these cannot be achieved.Page 29

Recommendation 8. The Welsh Government should explore the potential for introducing Welsh legislation to reduce plastic waste and pollution, based on the model for emissions reduction in the Environment (Wales) Act 2016. The Welsh Government should report back to this Committee on within 6 months of the publication of this report..... Page 30

Recommendation 9. Whatever the outcomes of the joint consultation with DEFRA and any subsequent decisions by the UK Government, the Welsh Government should introduce a comprehensive extended producer responsibility (EPR) scheme in Wales. The Welsh Government should use, as a starting point, the report it commissioned from Eunomia..... Page 30

Recommendation 10. The Welsh Government should introduce a DRS that applies to the broadest variety of containers, so that no restrictions are placed on the size of containers eligible for the scheme. If the UK Government decides to introduce a scheme with a narrower scope, the Welsh Government should consult on a specific scheme for Wales, with a DRS with the broadest scope as its preferred and recommended option. Page 30

Recommendation 11. We welcome the funding that has been made available for the Circular Economy Fund. The Welsh Government should clarify how the fund will be monitored; how it will assess the fund's impact and effectiveness; and how it will assess whether the fund has provided value for money..... Page 30

Recommendation 12. The Welsh Government should set out the steps it is taking to raise public awareness in relation to plastic pollution. Measures to raise public awareness should form a central part of any future strategy to reduce plastic pollution..... Page 30

Approach

1. Plastic products are valuable materials in modern society. However, recent media coverage, notably the [BBC Blue Planet II](#) series, has highlighted the scale of marine pollution and plastic debris in our oceans. One estimate suggests that [12.2 million of tonnes of plastic enters the marine environment](#) each year. Of this, around 0.95 million tonnes are microplastics.
2. This inquiry into the impact of microplastic pollution in Welsh waterways followed Welsh Government action to ban the manufacture, sale and supply of microbeads (a type of microplastic) from all rinse-off cosmetic or personal care products through the [Environmental Protection \(Microbeads\) \(Wales\) Regulations 2018](#).

Terms of Reference

3. The terms of reference for the Committee's inquiry were:
 - To what extent are microplastics, including synthetic microfibers, a problem within Wales' aquatic environment? How does this impact on environmental and human health?
 - What are the main sources of microplastic pollution, including microfibres?
 - How comprehensive is our knowledge about the scale of microplastic pollution and its effects? What should the research priorities be?
 - What is currently being done to minimise the release of microplastics into the environment? What more can be done, and by whom, to address this issue within Wales?
4. Chapter 1 of this report focuses on these terms of reference.
5. Since completing its initial work on microplastic pollution, the broader issue of plastic pollution has been given considerable attention. In Chapter 2, the Committee sets out its views on how these matters could be addressed in Wales.

Evidence

6. The Committee took evidence from academics and environmental organisations about current research and understanding of microplastic pollution.

The Committee also heard from experts on policy interventions and measures to reduce microplastic pollution

7. The Committee heard from:

- **Professor Steve Ormerod** – Professor at Cardiff University’s School of Biosciences, co-director of the **Water Research Institute**.
- **Frederic Windsor** – PhD Research student at Cardiff University’s School of Biosciences and Member of the Cardiff University Water Research Institute .
- Gill Bell, Head of Conservation (Wales) – **Marine Conservation Society**.
- Julian Kirby – **Friends of the Earth**
- David Jones – Just One Ocean
- Dr Chris Sherrington and Simon Hann, Eunomia
- Imogen Napper, Research Fellow, DEFRA Microplastic Research, University of Plymouth
- Steve Wilson, Dwr Cymru Welsh Water

8. The Committee also undertook a focused written consultation exercise. A list of respondents is included at Annexe A.

1. Microplastic pollution

9. Plastic doesn't biodegrade, it photodegrades. UV light breaks plastic down into smaller pieces over time, creating microplastics. These are plastic particles which are just a few millimetres in size, less than 5mm in any dimension, and are easily ingested by marine life. According to a 2014 [paper](#) published in the Royal Society Open Science journal, microplastic debris is likely to have accumulated in the deep sea to "a significant degree".

1.1. Sources of microplastic pollution

10. Microplastics can be categorised into two main types, primary and secondary. Pellet spills are the most prevalent source of primary microplastics. Plastic pellets, otherwise known as pre-production pellets or "nurdles", are microplastics used in the production of plastic products. A 2016 Eunomia report, "Study to quantify pellet emissions in the UK" showed:

"up to 53 billion pellets could be lost to the wider environment in the UK each year, the equivalent of 35 full tanker-loads of pellets spilled."

11. Secondary microplastics are created by the breakdown of larger pieces of plastic by external factors such as UV radiation, wind, waves, animals etc. These include "less obvious sources such as fibres from washing clothes, tyre wear and tear, road paint abrasion and the spreading of sewage sludge containing microplastics onto land".

12. Microplastic fibres released from washing clothes are a recognised source of secondary microplastic. A 2017 report, commissioned by the European Commission and prepared by Eunomia, "Investigating options for reducing releases in the aquatic environment of microplastics emitted by (but not intentionally added in) products", states:

"Fibres may enter the aquatic environment in wastewater, by indirect runoff or by atmospheric deposition. Natural fibres can be expected to degrade relatively rapidly under normal environmental conditions, whereas synthetic fibres will persist and hence become available for ingestion."

13. Imogen Napper referred to her research into microfibres that come from clothing. She said that:

“for a typical wash of acrylic clothing, up to 700,000 fibres can come off our clothes, go down the drain, then potentially make their way into the sewerage system and then into our oceans. A large proportion will get caught by the sewerage systems, but then if they’re applicated onto land as fertiliser, that’s another problem entirely as well.”

1. 2. Impact of microplastic pollution

14. Contributors to the inquiry referred to increasing concern and awareness of the impact of plastic, both microplastic and macroplastic, on the environment. The Marine Conservation Society (MCS) referred to the impacts of plastic ingestion on wildlife, including “...gut blockage and physical injury, oxidative stress, altered feeding behaviour and reduced energy allocation, resulting in impacts on growth and reproduction in a range of marine invertebrates, including crabs, lugworms and oysters”.

15. Wales Environment Link (WEL) told the Committee:

“In terms of environmental health, plastics can be lethal to wildlife; 50-80% of sea turtles found dead have ingested it, as well as 111 out of 312 seabird species.”

16. Just One Ocean explained that microplastics are “...providing a medium for the adsorption and concentration of persistent organic pollutants (POP) already present in the oceans as well as a mechanism for those toxins to enter the food chain”.

17. Chemical additives are often added to polymers during the manufacturing process to enhance the plastic material e.g. making it fire retardant. Once the plastic product is broken down and ingested by organisms, these chemical additives have the potential to “leach”.

18. Polychlorinated Biphenyls (PCBs) are linked to reproductive toxicity and population declines in marine mammal populations, and their biomagnification in marine food webs continues to cause severe impacts in top predators in European seas. Whilst the extent to which these contaminants are transferred from ingested plastics into living tissues is as yet unknown, there is evidence that PCBs found in the flesh of Great Shearwaters were derived from ingested plastic particles.

19. In its written evidence, the Cosmetic Toiletry and Perfumery Association (CTPA) suggested that observed physical effects of microplastic pollution may be overestimated. It said that:

“A recent evaluation of ecotoxicity studies with microplastics found that many published studies report effects observed at much higher concentrations than those observed in the environment, and are therefore unrealistic, especially when assessing physical effects.”

20. Frederic Windsor referred to similar studies in his written evidence, saying that:

“Although a large body of laboratory-based evidence suggests potential negative effects, recent studies have indicated that perceived risk from plastic pollution may not represent the actual effects observed in natural systems.”

21. He concluded by identifying the need for “further research...to better understand the environmental effects of microplastics”. This was echoed by Just One Ocean, which called for more research into the effects of microplastic pollution on environmental health and the development of a broader understanding of the economic and social impacts of such pollution on coastal communities.

1. 3. Impact of microplastics on human health

22. As described in the preceding section, microplastics are known to be ingested by organisms throughout the food chain. Research has found microplastics in fish being sold for human consumption, as well as in bottled drinking water.

23. A 2016 report by the UNEP, Emerging issues of environmental concern, considered the issue of microplastic pollution and a “plasticised food chain”, and concluded that:

“The presence of microplastic in foodstuffs could potentially increase direct exposure of plastic-associated chemicals to humans and may present an attributable risk to human health. However, on the basis of current evidence, the risk to human health appears to be no more significant than via other exposure routes.”

24. The MCS expressed concern that “there is a potential danger that these pollutants may be passed up the food chain to human consumers”, and WEL stated that there is a “clear danger to human health” from microplastics in the food chain.

25. The CTPA said that potential risks to human health from microplastic pollution are unknown:

“Currently, no information exists to determine either the uptake or biological effects in humans of microplastics from the aquatic environment.”

26. The National Federation of Women’s Institutes Wales highlighted the need for further research to understand the effects of microplastic ingestion on human health. In written evidence, Fredric Windsor referred to links being made between plastics and impacts on human health, and said:

“Indirect links between plastics and human health have been generated with plastic associated chemicals, such as phenols and phthalates, observed in humans. Questions, however, remain over the relative toxicity of these compounds to humans. Direct links between microplastics and human health are uncommon.”

1. 4. Microplastics in freshwater ecosystems

27. Although understanding of microplastics as a pollutant in the marine environment has increased recently, less attention has been given to their impact on freshwater ecosystems. This is in spite of the recognition that 80% of marine pollution is from land-based sources, and therefore freshwater ecosystems are within greater proximity to possible plastic sources and pathways.

28. Professor Steve Ormerod said:

“...8 to 12 million tonnes of plastic reaches the world’s oceans every year and about 4 million tonnes of that is coming through the river environment. Rivers are close to the sources of plastics. The densities of plastic particles on the river bed sometimes can be as much as 0.5 million particles per sq m. That’s much, much more plastic than, in fact, the living organisms present on the bed of the river.”

29. Professor Ormerod went on to talk about how he and his team had examined rivers in south Wales, including the river Taff. They had examined:

“...the extent to which insects in the river were contaminated by plastic, and found that one in every two insects in the Taff river system already contained plastics. We also looked at the transfer of that material into organisms like river birds, and we found that at two thirds of the sites

we looked, we already find evidence that river birds are ingesting, particularly, microplastic particles.”

30. Evidence received from Dwr Cymru Welsh Water said “there is less evidence on the presence and quantity of microplastics in the freshwater environment” compared to the marine environment. Steve Wilson of Dŵr Cymru Welsh Water said that:

“There is no current reliable UK evidence on microplastics in drinking water. The evidence that’s been drawn by other bodies has been really coming from the US, and that’s why this study that we’re doing with UKWIR is really important.”

31. He went on to explain that Dwr Cymru, along with UKWIR, the UK water industry research group, were undertaking a study of nanoplastics and microplastics through water and waste water operations. He said that the project, “Sink to River—River to Tap—A review of Potential Risks from Nano-particles and Microplastics” was due to conclude in the spring of 2019.

32. In written evidence, Fredric Windsor highlighted “gaps in our knowledge” regarding microplastic sources. He said:

“Knowledge regarding microplastic pollution is dominated by research in marine ecosystems, with relatively few studies assessing freshwater or terrestrial habitats.”

1. 5. Wastewater Treatment

33. Most household waste water is treated at municipal sewerage treatment plants. However due to the small size of microplastics they are difficult to completely filter out of the water. This includes the release of microfibrils from washing synthetic clothing, as well as microplastics from cosmetic and personal care “wash-off” products.

34. Recent research by Frederic Windsor and Professor Steve Ormerod, “Microplastic ingestion by riverine macroinvertebrates”, sought to quantify the presence of microplastic particles in river organisms upstream and downstream of five UK Wastewater Treatment Works (WwTW) in Wales. The study found microplastics in 50% of macroinvertebrate samples:

“There was no increase in plastic ingestion downstream of WwTW discharges averaged across sites, but MP abundance in macroinvertebrates marginally increased where effluent discharges

contributed more to total runoff and declined with increasing river discharge.”

35. The study found “levels of microplastic ingestion by several aquatic insects increased with increasing wastewater contributions”. Microplastics were found in macroinvertebrate samples across all sites, illustrating the abundance of litter and plastic pollution across Wales, but also that “a wide variety of sources are contributing to microplastic pollution”.

36. Steve Wilson of Dwr Cymru Welsh Water said:

“There’s some evidence that says 80 to 90 per cent of the micro and nanoplastics that come through the drainage network are removed in the sewage treatment process. That’s quite a good capture rate, considering the biological processes that we have. If the industry was to go to a greater degree of capture, that would mean a considerable wholesale re-engineering of our waste water infrastructure, and a considerable bill for our customers.”

37. The 2017 Eunomia report shows microplastics that are captured in wastewater treatment are typically captured within sludge, “of which approximately 50% across Europe is applied to agricultural land and 50% incinerated or destined for landfill”.

38. Microplastics captured in the sludge could leech into waterways. However, the report states that “the effects of this are yet to be established”. The MCS suggested that:

“The practice of spreading sewage sludge (a bi-product of water treatment) onto farmlands may result in between 125 and 850 tons microplastics/million inhabitants being added annually to European agricultural soils either through direct application of sewage sludge or as processed biosolids.”

39. Evidence received from the CTPA suggests that “particles are removed via a physicochemical process with a high degree of efficiency” through waste water treatment. However the 2017 report by OSPAR, “Assessment documents of land-based inputs of microplastics in the marine environment” says:

“The actual removal of microplastics from waste water is lower than the reported 99% because of overflows due to a limited capacity of the sewage treatment plants to deal with peak water flows and because not all households are connected to a sewage treatment plant.”

40. Steve Wilson, Dwr Cymru Welsh Water talked about the impact of plastics on services to its customers. He said that wet wipes that are not biodegrading were causing over 2,000 blockages every month in Wales. He went on:

“That can cause misery for customers who find that their sewers are backing up into their homes. And then, if they are getting through to the treatment works, that’s another element that we have to capture, and there is no need for them to be in the drainage network. So, that area and the area around cotton buds particularly, again, the plastic element is unnecessary.”

1. 6. Policy interventions to reduce microplastic pollution

41. In written evidence to the committee, Just One Ocean said that “there is very much a reactive rather than proactive approach to the microplastic issue”, adding that there is:

“an underlying feeling that whilst it is a critical environmental issue, the socio-economic impact, at the moment, is not significant enough to bring about any real change.”

42. The majority of respondents to the Committee consultation suggested that the priority should be to introduce measures that prevent plastic entering the environment in the first instance. Just One Ocean said:

“part of the solution has to be a cradle to cradle approach in the manufacturing process of plastic products.”

43. Written evidence from Natural Resources Wales (NRW) also suggested the “focus should be provided on the removal of plastic litter from, and entry to, the aquatic environment”, saying:

“NRW believes that ‘source control’ options should be sought first to remove the entry of microplastics into the aquatic environment before resorting to ‘end of pipe’ treatment solutions.”

44. The NFWI-Wales suggests the “onus should be on the polluter” to:

“...recognise their role in polluting the environment and take steps to reduce the amount of waste emitted by tackling the pollution at the source...”

Action should be taken by textile and clothing manufacturers and retailers of clothing products to prevent microplastic fibres being released into the environment in the first instance.”

45. This describes an approach called Extended Producer Responsibility (EPR). Introduced by the EU Waste Framework Directive, EPR is a way of encouraging producers to consider the post-consumer phase of a product’s lifecycle by giving them responsibility for its end of life management

46. A 2018 report by Eunomia, commissioned by the Welsh Government, on options for extended producer responsibility in Wales identified options, in line with EPR principles, to tackle a number of issues associated with key food and drink (F&D) packaging and associated littering in Wales.

47. In reference to potential policy interventions relating to microplastics, Professor Steve Ormerod said more understanding of the sources of plastic pollution is needed first. He said:

“I don’t think we’ve invested quite so much here in the United Kingdom, or specifically in Wales, into understanding the sources of plastic material in river catchments. We don’t know enough about the movements through ecosystems of that material. We don’t know enough about where that material ends up and what its fate is. We don’t know what the effects are on species populations, on communities, on ecosystems and processes.”

48. Dr Chris Sherrington, Eunomia, recognised that potential Welsh Government policy interventions were limited in relation to microplastics, given the devolution settlement. He suggested that one area that could be addressed was infill on artificial pitches. He said:

“Once we have the measurement standard, you could look at green procurement. Once you have the standards for the rate at which tyres wear, once you have the standards for the rate of loss of synthetic textiles, through green procurement, Welsh Government could say, ‘We require all public bodies to adopt the most favourable options here.’ I think where you could immediately start is on the infill for artificial pitches. There’s no reason why Welsh Government couldn’t address that on its own. So, where you have artificial sports turf, the infill between the fake grass is typically rubber crumb from old tyres.”

49. In response to a question about the potential of introducing a tax or levy in relation to microplastics, David Jones, Just One Ocean recognised that the carrier

bag levy had been effective, but cautioned that an equivalent approach for microplastics would be complex. He said:

“The majority of the stuff that turns up on your beach has come from land at some stage, but probably not from Wales, and it’s probably been in the ocean—by the time it’s got to about 1 mm, or up to 5 mm, which defines microplastics, I suppose—for about 20 years. So, actually, one of the biggest problems we’ve got is finding sources and pathways. Where did it come from? Who’s responsible? Where can we—not apportion blame, sorry, but apportion responsibility for actually leaking it?”

50. Dr Chris Sherrington of Eunomia suggested a different approach, that would involve targeting the supply chain. He said:

“...you need a kind of supply-chain accreditation route, because we know what practices need to be put in place. So, you need a kind of guidance document for that. It could even be something that Welsh Government could lead on. So, you have the people who supply the largest amount of plastics—so, it could be supermarkets—they have to ensure that their whole supply chain is adhering to this best practice. That means all the way up, all the way to the converters, even to those outside Europe—it would have a global reach. This is the kind of thing—. You could look at other ways of just dealing with it at facilities in Wales, but you’re not dealing with the global supply chain of it. So, I think it has to be based on the consumption of it.”

51. Imogen Napper talked about commercially available interventions aimed at reducing the release of microfibres from clothing. She referred to “the Cora Ball or the guppy bag”.

“the guppy bag is a mesh bag and you would put your clothes into it and then you put your clothes in the bag into the washing machine. It states that it will collect all of the fibres—they won’t go through the waste water. The Cora Ball, it looks like a cactus, a circular cactus, and it’s got little spinacules that come off it and it promotes that it can capture the fibres in those spinacules. And then we’re also testing different inventions that would be put into the washing machine itself. So, we’d have to remove the lint from those inventions like we would from a tumble dryer.”

52. Steve Wilson, Dwr Cymru Welsh Water, referred to the “wash and wear well” advice from the Women’s Institute, which is aimed at minimising microfibre release from clothes during washing.

Our view

We decided to undertake work on microplastics after receiving a presentation on the subject from Professor Steve Ormerod. This was an area we felt had not been given sufficient attention during the recent public debate about plastic pollution.

The Committee was shocked to hear that there is now evidence that microplastics are being ingested by organisms throughout the food chain. This must be a wake-up call.

Important research is being undertaken in relation to microplastics in Welsh rivers, by Professor Ormerod and his team, and others, including Dwr Cymru Welsh Water. The outcomes of this work should be used to underpin future policy interventions in this area.

We also note that stakeholders believed strongly that there are gaps in the research on this subject. We are particularly concerned about the lack of understanding of the impact of microplastics on human health. We believe the Welsh Government should explore how research into nano and micro-plastic pollution can be supported through a wider plastic pollution strategy. We discuss this further in Chapter 2.

We note that the comments from contributors about the merits of an Extended Producer Responsibility (EPR) scheme. We believe that this approach could make a significant contribution to addressing microplastic pollution. We discuss this further in Chapter 2.

We note the evidence we received in relation to synthetic microfibres released through washing clothes. We believe the Welsh Government should consider how an EPR approach can be applied to the clothing industry, with the specific aim of reducing levels of microfibre release through washing.

We note the evidence we received about certain products that contribute to microplastic pollution. Of course, we fully support the already-existing legislative interventions targeted at microbeads. We believe the Welsh Government should consider which other products should be subject to similar legislative interventions. This could include non-biodegradable wet wipes.

We note comments made by participants about an area that would benefit from immediate policy intervention – infill at sports pitches and play areas. We believe the Welsh Government, along with local authorities, should explore how this can be addressed.

We also note comments from stakeholders about the production of microplastics from tyre wear. We believe the Welsh Government should ensure that the latest research on this matter informs the development of transport policy.

On 2 May 2019, members of the Committee visited Skomer Island to hear about conservation and environmental monitoring. We were shocked to hear about the prevalence of fishing gear containing plastic being discarded at sea, and continuing to entangle marine life (known as “ghost fishing”). We were pleased to hear of interventions led by local divers, with the aim of recovering lost fishing gear.

However, we continue to have concerns about this issue. We believe the Welsh Government should explore approaches to ensure that fishing gear is not discarded in the sea, and lost fishing gear is actively retrieved. We have heard, for example, suggestions of awareness raising measures and the use of geotagging and sonar technology for tracking gear. We also believe there is scope for plastic fishing gear to be included within the scope of a future extended producer responsibility scheme, where producers of plastic fishing gear will be required to cover the costs of waste collection from port reception facilities and its transport and treatment.

Recommendation 1. More research is needed to address knowledge gaps in relation to nano and microplastics in Welsh waters. The Welsh Government should explore how such research can be supported, so that its policy interventions are informed by the latest knowledge.

Recommendation 2. The Welsh Government should explore how an EPR approach can be applied to the clothing industry, with the specific aim of reducing levels of microfibre release through washing. It should undertake this exploratory work and report back to this Committee within the next 6 months, setting out its initial views on this proposal.

Recommendation 3. The Welsh Government should explore whether legislation can be introduced to restrict access to certain products that contribute to microplastics pollution through the waste water treatment pathways, such as non-biodegradable wet wipes. It should undertake this

exploratory work and report back to this Committee within the next 6 months, setting out its initial views on this proposal.

Recommendation 4. We were concerned to hear about the issues relating to the use of tyre infill on sport pitches and play areas. The Welsh Government should commission further research in this area and should explore how it can assist local authorities to address the negative impacts of the use of tyre infill.

Recommendation 5. The Welsh Government should explore approaches to reduce the amount of fishing gear discarded in the sea and encourage the retrieval of lost fishing gear, including awareness raising measures and the use of geotagging and sonar technology for tracking gear. The Welsh Government should also explore the potential inclusion of fishing gear in a future extended producer responsibility scheme.

2. Proposals to tackle plastic pollution and packaging waste

Since completing its initial work on microplastic pollution, the broader issue of plastic pollution has been given considerable public attention. In this Chapter, the Committee sets out some initial views on how these matters could be addressed in Wales.

53. In February 2019, the Welsh Government released a written statement announcing three consultations aimed at tackling plastic and packaging waste. The Deputy Minister, Hannah Blythyn AM, urged the Welsh public to have their say on the joint proposals, launched by the Department for Environment, Food and Rural Affairs (DEFRA).

54. The proposals included Extended Producer Responsibility (EPR) for packaging (that will apply to the UK as a whole), and a Deposit Return Scheme (DRS) for drinks containers applying to Wales, England and Northern Ireland. The Scottish Government had already consulted on DRS proposals during 2018.

55. A third, UK-wide, consultation, published by HM Treasury, sought views on a proposed tax on the production and importation of plastic packaging containing less than 30% recycled content.

56. On 29 April 2019, the Deputy Minister, Hannah Blythyn AM, launched a £6.5 million Circular Economy Fund. Its intention is to “help accelerate Wales’ shift towards a circular economy by increasing demand for recycled materials, keeping resources in circulation instead of being incinerated or ending their life in a landfill, and supporting the growth of businesses operating in Wales”.

2.1. A strategic approach

57. David Jones, Just One Ocean suggested that, currently, “there’s good piecemeal stuff being done, good science being done, lots of organisations, but unless they all have a co-ordinated strategy, I don’t think it’s going to have the impact that it should have in a short enough space of time”.

58. He emphasised the need for governments to adopt a “more strategic process” given the complexity of the challenge of tackling plastic pollution. He

suggested that a holistic approach is necessary, which “looks at science, that looks at education, that looks at innovation, that looks at participation and engagement”. He stressed the need for a strategic direction on waste management.

59. Professor Steve Ormerod referred to existing Welsh legislation, which would set a clear framework for policy interventions, He said:

“Both the Environment (Wales) Act 2016, around resilience and the biodiversity duty, and the Well-being of Future Generations (Wales) Act 2015 clearly should be looking at global responsibility and the resilience dimensions as being clear areas where, perhaps, you could have some interaction and purchase over the way things are done.”

60. Gill Bell, Marine Conservation Society, talked of the need for a strategic approach. She said that this should focus on reducing plastic usage in the first instance. In relation to the emphasis on policies relating to recycling, she said:

“...we’re very proud of our recycling rates, and, indeed, we should be, and we should continue to pursue that, but there has been a focus on the recycling. We need to change that, we need to start looking at extended producer responsibility, to looking at the polluter-pays principle, as well as the preventative principle.”

61. Dr Chris Sherrington, Eunomia also said the focus should be on “prevention in the first instance”.

62. Simon Hann, Eunomia, said that the Welsh Government could do more to incentivise industries to “add value to plastic”. He said this should not necessarily involve “recycling it into another product, but, when it goes out of Wales, it is a product in itself—it’s plastic flake that can be sold directly to manufacturers to be used, so you’re adding value to it”.

2. 2. The need for Welsh legislation

63. Julian Kirby, Friends of the Earth, recognised that some progress had been made in tackling plastic pollution through voluntary measures. However, he cautioned that “the problem with voluntary initiatives is that they’re only ever partial. How many outlets are still giving away plastic straws? Probably more than have switched, actually”.

64. He said that legislation was needed that:

“commits Governments across the UK and beyond...to set an end goal to reduce plastic pollution to as near zero as can be achieved, to have near-term objectives of getting rid of those pointless, those needless, those easy to replace single-use plastics especially, but also really setting to work in committing to work, over the course of Governments to come, addressing those difficult areas, and perhaps with an expert committee set up, or leaning on an expert pool of university advisers who can be really driving the development of policy around those areas, and the ambitions related to them.”

65. He suggested a legislative model based on the Environment (Wales) Act 2016, which includes an overall target for reduction of emissions by a certain date, with interim targets included. He said that a similar approach could be taken for the reduction of plastic pollution.

66. Steve Wilson, Dwr Cymru Welsh Water, referred to potential legislative interventions in relation to microplastics, and commended the legislation relating to microbeads in cosmetics. However, he said that that “we’re still at the early stages in understanding which sources [of microplastics] are having the most impact in Wales”. On that basis, he felt that it was:

“a little bit premature to be saying what legislation needs to be put in place, until we have a better understanding, particularly in our own environment, around what plastics are coming in, but we would absolutely welcome some support and legislation around the unnecessary disposal of plastics into the drainage network.”

2. 3. Extended Producer Responsibility (EPR)

67. EPR was introduced by the EU Waste Framework Directive and is a way of encouraging producers to consider the post-consumer phase of a product’s lifecycle by giving them responsibility for its end of life management, including the waste management costs. This is in line with the “polluter pays” principle.

68. A 2018 report by Eunomia, commissioned by the Welsh Government, on extended producer responsibility in Wales identified options, in line with EPR principles, to tackle a number of issues associated with food and drink packaging and associated littering in Wales.

69. The report recommended the Welsh Government should seek to achieve full cost recovery, dropping to 80% in some cases, from producers. It suggested this would rebalance “costs away from citizens/taxpayers towards

consumers/producers” in line with Welsh Government’s well-being goals of a prosperous and more equal economy.

70. In a Plenary statement on the 8 May 2018 on EPR developments in Wales, the then Minister for the Environment, Hannah Blythyn AM, said:

“Since this report was commissioned, there have been developments at a UK level, and in some areas it makes sense for us to work together with DEFRA and the other devolved administrations.”

71. Under the proposed EPR system being jointly consulted on, businesses and manufacturers will pay the full cost of recycling or disposing of their packaging waste. The proposals aim “to see a reduction in the use of unnecessary and difficult to recycle packaging”:

“we want more packaging to be designed for optimal recyclability, we want more packaging waste to be recycled and we want more packaging to be made from recycled material.”

72. Dr Chris Sherrington, Eunomia, explained that because of the absence of EPR, producers in the UK currently only pay “about 10 per cent of the end-of-life costs of their packaging”. He said that, consequently, “there’s no incentive at the design stage for them to think too much about the end of life, to design something they know can be recycled”. He went on to say:

“...that is changing under the revised waste framework directive, which we’ve signed up to. That requirement will come into place for greater coverage of costs, up to 100 per cent of the end-of-life costs to be covered. So, that, I think—we’ll then see a big difference there, because the financial incentives will be aligned with the practice we’d want to see.”

73. Julian Kirby, contrasted the current situation in the UK with other parts of Europe. He said :

“Across much of Europe, the people who produce what goes on to become plastic pollution ... they pay about 90 per cent to the clean-up cost, and council tax payers and taxpayers pay 10 per cent. Here in the UK, it’s the other way round. So, local authorities, us taxpayers pay 90 per cent towards the cost of clean-up, and the people who make and market and push out these pollutants are paying much, much less. Now, that industry is saying, ‘Actually, yes, we should pay more now’, so we’re seeing a shift there, but we need to see much more producer

responsibility across the board, not just on plastic straws and all the rest of it.”

74. David Jones expressed strong support for extended producer responsibility, and emphasised that future arrangements should ensure that “the funding that goes into waste management and to change the behavioural processes that we’ve currently got comes from a source that is making a profit out of this”.

75. Gill Bell, of the Marine Conservation Society, said that Eunomia’s report on EPR “didn’t go far enough as far as we’re concerned”. She said that it should be a requirement that:

“producers pay the full cost of the disposal, recycling and collection of all the materials that they produce.”

2. 4. Deposit Return Scheme (DRS)

76. The purpose of a DRS is to encourage the return of materials into an organised reuse, recycling or treatment/disposal process. In simple terms, the principle is that consumers, on purchasing beverage products, pay an additional fee on the packaging in the form of a deposit.

77. The DEFRA consultation sets out two potential models for a DRS – the “all-in” model, which would not place restrictions on the size of drinks containers within the scope of the scheme. The alternative, “on-the-go” model, would restrict the drinks containers in the scope of the DRS to those less than 750ml in size and sold in single format containers. This would target containers most often sold for consumption outside the home, and those that are more likely to escape recycling waste streams.

78. The consultation introduces the concept of a central organisation or body to manage the DRS operation, and proposes a new not-for-profit body, the Deposit Management Organisation (DMO), which would be established for the purpose of running the DRS.

79. The UK Government has said that the proposals:

“... could drive up the recycling of an estimated three billion plastic bottles which are currently incinerated, sent to landfill or left to pollute streets, countryside and the marine environment.”

80. Contributors were supportive of DRS schemes in principle. David Jones, One Ocean, said:

“There is an economic case to put take-back schemes in supermarkets. I was talking about it in 2010. You could actually work out the cost. Polyethylene terephthalate, or PET, your water bottles, is worth around about £300 a tonne on the open market. So, you could work out how much it is, and there’s an economic case for people to go to your shop.”

2. 5. Plastic Packaging Tax

81. A single use plastics tax was put forward by the Welsh Government as one of four new taxes considered by the Cabinet Secretary for Finance. The UK Government then announced a call for evidence on taxation around single-use plastics. The Welsh Government has opted “to work with the UK Exchequer to try and have a UK-wide single-use plastic tax”.

82. The Treasury’s proposed plastic tax would come into force from April 2022, and is aimed at creating a financial incentive to use recycled plastics over virgin materials.

83. The proposed tax is intended to encourage an increase in the amount of recycled plastic content in packaging produced and sold in the UK. It will cover materials manufactured or imported into the UK. However, to “ensure that UK manufacturers are not at a competitive disadvantage, exports of chargeable plastic packaging will not be subject to the tax”.

2. 6. Public awareness

84. Several contributors to the Committee’s inquiry referred positively to an increase in public awareness of plastic pollution, particularly as a result of the BBCs Blue Planet documentary series. However, contributors emphasised the need to build on this momentum to achieve lasting change. In relation to this matter, Dr Chris Sherrington said:

“...it’s great that public awareness has been raised through concern about the marine environment, but I do sometimes wonder that, if the problem is framed as almost solely a marine plastics issue, we’re then susceptible to the response, ‘Well, 98 per cent of it comes from Asia. What’s the point of doing anything here?’. Now, this is where you need to refocus on land-based litter, which couldn’t possibly have come from China. This is stuff in our backyards. It’s an everyday experience.”

Our view

Plastic pollution is a serious threat to our planet and the public rightly expects governments to take urgent action to tackle this problem.

In April 2019, the Welsh Government declared a “climate emergency”. It is not clear yet what impact this will have on its policies in practice.

Overall, the Welsh Government’s progress has been lacking in this policy area. It has commissioned research and a report on Extended Producer Responsibility (EPR), which has not been implemented. It has allocated funding for scoping work on a Deposit Return Scheme (DRS), but no scheme has been brought forward. Stakeholders are, understandably, concerned about this apparent inertia. The Welsh Government must demonstrate to the Welsh public that it understands its concerns and must take action.

We believe the Welsh Government must prioritise tackling plastic pollution. As a first step, the Welsh Government should prepare and publish a 10 year, comprehensive and ambitious strategy aimed at reducing plastic pollution. The strategy should be developed with stakeholders and include targets and milestones. It must make clear linkages with other policy areas, such as waste management and “green” procurement (e.g. purchasing products and services that cause minimal adverse environmental impacts).

We already have Welsh legislation to underpin policy interventions in relation to the reduction of plastic pollution, namely the Environment (Wales) Act 2016 and the Well-being of Future Generations (Wales) Act 2015. Any future strategy to reduce plastic pollution should be informed by the provisions of both Acts.

The Welsh Government has made considerable progress in increasing recycling rates. However, we agree with stakeholders that policies to reduce plastic pollution should prioritise reduction, then reuse, with recycling as a last resort if these cannot be achieved. This should be reflected in our proposed plastic reduction strategy.

We welcome the funding allocated to the Circular Economy Fund. We believe it will be important to assess the fund’s impact and effectiveness, and whether it has provided value for money. This is a matter we will pursue with the Welsh Government.

Urgent and decisive action is needed to reduce plastic pollution, starting with governmental policy-making. We believe there is merit in exploring the

potential of introducing Welsh legislation to reduce plastic pollution, based on the model for emissions reduction in the Environment (Wales) Act 2016. The legislation should include an overall target for the eradication of plastic pollution and interim milestones.

The Welsh Government has decided to participate in the joint consultations on proposals for EPR for packaging and a DRS. We welcome this. We recognise that a coordinated response on such matters will have a significant impact, but the Welsh Government must be ready to take a lead and, if necessary, act alone.

We note that the DEFRA consultation refers to a narrow, “on the go” definition of containers that would qualify for a DRS. Our strong preference would be for a DRS that would apply to the broadest variety of containers, so that no restrictions are placed on the size of containers eligible for the scheme. If the UK Government decides to introduce a scheme with a narrower scope, we believe the Welsh Government should consult on a specific scheme for Wales, with a DRS with the broadest scope as its preferred and recommended option.

As we have already said, we are disappointed that the Welsh Government has made so little progress on an EPR scheme for Wales. There has been no explanation from Welsh Government as to why this has not been taken forward. We believe that, whatever the outcomes of the joint consultation with DEFRA and any subsequent decisions by the UK Government, the Welsh Government should introduce an extended producer responsibility (EPR) scheme in Wales. It should use, as a starting point, the report the Welsh Government commissioned from Eunomia.

Finally, we welcome the outpouring of public enthusiasm for change in this policy area. We believe this is our strongest weapon in tackling plastic pollution. Any future strategy to reduce plastic pollution must have, at its centre, citizen engagement and awareness raising so that this momentum continues.

Recommendation 6. The Welsh Government should prepare and publish a 10 year, comprehensive and ambitious strategy aimed at reducing plastic pollution. The strategy should be developed with stakeholders and include targets and milestones. It must make clear linkages with other policy areas, such as waste management and “green” procurement.

Recommendation 7. The proposed strategy must ensure that policies to reduce plastic pollution prioritise reduction, then reuse, with recycling as a last resort if these cannot be achieved.

Recommendation 8. The Welsh Government should explore the potential for introducing Welsh legislation to reduce plastic waste and pollution, based on the model for emissions reduction in the Environment (Wales) Act 2016. The Welsh Government should report back to this Committee on within 6 months of the publication of this report.

Recommendation 9. Whatever the outcomes of the joint consultation with DEFRA and any subsequent decisions by the UK Government, the Welsh Government should introduce a comprehensive extended producer responsibility (EPR) scheme in Wales. The Welsh Government should use, as a starting point, the report it commissioned from Eunomia.

Recommendation 10. The Welsh Government should introduce a DRS that applies to the broadest variety of containers, so that no restrictions are placed on the size of containers eligible for the scheme. If the UK Government decides to introduce a scheme with a narrower scope, the Welsh Government should consult on a specific scheme for Wales, with a DRS with the broadest scope as its preferred and recommended option.

Recommendation 11. We welcome the funding that has been made available for the Circular Economy Fund. The Welsh Government should clarify how the fund will be monitored; how it will assess the fund's impact and effectiveness; and how it will assess whether the fund has provided value for money.

Recommendation 12. The Welsh Government should set out the steps it is taking to raise public awareness in relation to plastic pollution. Measures to raise public awareness should form a central part of any future strategy to reduce plastic pollution.

Annex A: Written evidence

The following people and organisations provided written evidence to the Committee. All written evidence can be viewed in full at: [Consultation Responses](#)

Code	Organisation
PL 01	Individual
PL 02	Marine Conservation Society
PL 03	Cosmetic Toiletry and Perfumery Association (CTPA)
PL 04	National Federation of Women's Institutes
PL 05	Natural Resources Wales
PL 06	Wales Environment Link
PL 07	Dŵr Cymru Welsh Water
PL 08	Just One Ocean
PL 09	Cardiff University
PL 10	Cardiff University
PL 11	Friends of the Earth
PL 12	Eunomia
PL 13	Just One Ocean
PL 14	Plymouth University