

TRANSCRIPT

STANDING COMMITTEE ON THE ENVIRONMENT AND PLANNING

Inquiry into the Environment Protection Amendment (Banning Plastic Bags, Packaging and Microbeads) Bill 2016

Melbourne — 1 December 2016

Members

Mr David Davis — Chair

Ms Samantha Dunn

Ms Harriet Shing — Deputy Chair

Mr Khalil Eideh

Ms Melina Bath

Mr Cesar Melhem

Mr Richard Dalla-Riva

Mr Daniel Young

Participating Members

Mr Greg Barber

Mr James Purcell

Mr Jeff Bourman

Mr Simon Ramsay

Ms Colleen Hartland

Staff

Secretary: Mr Michael Baker

Witness

Mr Jeffrey Samuel Angel (affirmed), Director, Boomerang Alliance.

The DEPUTY CHAIR — Welcome to the inquiry into the banning plastic bags, packaging and microbeads bill of 2016, Mr Angel. We might start by giving you an opportunity to provide a presentation to us. We have about 45 minutes for this particular appearance, so if you would like to confine your opening remarks to, say, 5 or 10 minutes, we can then get underway with some questions from the committee.

Mr ANGEL — Sure. I was in beautiful Melbourne on Monday. I left on Tuesday morning, and it was not so beautiful. I am going to pass around some additional information, which includes some photos of plastic bags caught in trees at Docklands. There are two pages each there.

The DEPUTY CHAIR — Are you happy for that information to form part of your submission, Mr Angel?

Mr ANGEL — Yes. From our point of view, the bill targets the key hazardous plastics. They may not be particularly high as a percentage of plastic litter, but they are very dangerous to marine life. They include the bags, microbeads and styrene. When the plastics enter the food chain, it has been quite clear that they can go up to our dinner plates, so we are talking about a human health issue as well as an environmental one. It is one described by a Senate committee this year as a looming health crisis. Styrene is not only an issue in terms of its disposal through the waste system, but also when it is used for heated food it can actually contaminate the food.

Our view is that previous policies to control litter have plateaued. I guess they are not as bad as they were 30 or 40 years ago, but they have now plateaued, and in consequence of the concerns about plastic in the environment one can only say that if those policies continued they will have failed. I draw particular attention to Senate recommendation 21 on plastic bags, recommendation 22 on microbeads and also of course recommendation 16 on a container deposit system. That committee heard an enormous amount of scientific, community and industry evidence.

We believe that there is very strong public support for a ban on bags. We did carry out an OmniPoll last year, and bags were at the top of the issues that respondents said should be of priority for government action, closely followed by drink containers.

The DEPUTY CHAIR — How many respondents did you have to that OmniPoll, Mr Angel?

Mr ANGEL — It was a national one — about 1000. It was properly weighted; it was not a phone tag thing.

The DEPUTY CHAIR — That is okay, just a ballpark figure.

Mr ANGEL — We can provide that information, if you like.

The DEPUTY CHAIR — Thank you.

Mr ANGEL — Once informed about microbeads, because it was a fairly new topic, that too rose in the priority for government action. Beyond that, I have read the bill thoroughly and can give you particular comments on particular parts of it.

The DEPUTY CHAIR — Thank you for that opening statement and also for your extensive submission, which does actually identify a number of the statistics that you just alluded to then but also goes on to talk about the way in which we are consuming plastic products and packaging and the way that that consumption does not match the recycling efforts that we have. I note that in the submission you have talked about the prevalence of plastic bags for around 30 years and that you estimate that worldwide we have got about a trillion bags that are used and discarded every year. In landfill terms and the way that this sort of volume makes its way into the environment, we are talking about significant volumes of build-up, particularly for developing nations, and in a way that impacts upon agriculture and aquaculture in developing countries.

I would just like to get your views in relation to the alliance's position on build-up in those countries and how that actually translates from environment to dinner plate in the way that you just talked about, and I would like you to not just talk about plastic bags but also go on to microbeads, which is a more significant part of your submission. That is an area that I am keen on fleshing out further.

Mr ANGEL — What we did in Melbourne on Monday was release our *Threat Abatement Plan*, which contains extensive research into many sources of plastic and estimates — they are always estimates — of the

tonnages of plastic going into the environment and the types of policies that are a best response to that. Essentially you have two types of plastic. Primary microplastics are already pre-prepared small pieces.

The DEPUTY CHAIR — Can you give us an example of primary microplastics, please?

Mr ANGEL — The plastic microbeads that you find in facial cleansers and cleaning products, including floor waxes and polishes. The secondary plastics are the broken up, larger pieces of plastic as they live their life in the environment and dissipate through the environment.

The DEPUTY CHAIR — What is an example of that?

Mr ANGEL — Plastic bags, plastic bottles. I mean, plastic is there. It is a product that lasts for a very long time. We may only use it very quickly, but when you put it in the environment it still lasts a long time, and it changes its composition and volume by breaking up into smaller and smaller pieces, whether they be micro or in fact nano-sized plastic. Once they reach that scale, they then enter the food chain, and there is increasing evidence that fish, marine life and corals just eat it. It goes up the food chain. When we catch the fish and eat the shellfish we are eating plastic.

The DEPUTY CHAIR — How does it go up the food chain? Can you talk us through how that actually occurs?

Mr ANGEL — The animals at the bottom of the food chain do not make any distinction between it being natural or non-natural types of organic material that they would eat for food.

The DEPUTY CHAIR — The krill and small organisms.

Mr ANGEL — Sure; it is that small — prawns. Bigger things eat them as we go up the food chain until it gets to us, the very big eaters.

The DEPUTY CHAIR — How does the concentration of plastic particulate change over the course of these small organisms, such as krill or other crustaceans — and indeed shellfish, I would also imagine, have a capacity through being bivalve filtration organisms, to also absorb that sort of particulate? How does that build up in the course of the food chain once you get to the apex of marine life?

Mr ANGEL — It is our understanding that it can certainly pass into the bloodstream and the tissues of the animals. There is increasing scientific evidence of that. Also evidence is now being revealed that that plastic absorbs other toxic chemicals in the seawater, so you are not only eating a particular physical thing called plastic but also the chemicals attached to it. And it is still plastic — it is not disappearing.

There is some excretion of plastic. There is actually some evidence that some of the plastic that is found in the bottom sediments of the ocean is from marine life excretion, but once it gets into the fat cells or other parts of their body and something eats them, then it passes up the chain.

The DEPUTY CHAIR — So is it fair to say it has worked its way into the ecosystem such that through marine excreta it is then re-absorbed into the systems of those smaller microorganisms and then works its way back up again —

Mr ANGEL — Absolutely, sure.

The DEPUTY CHAIR — at the same time as having the gross volume of that particulate matter increase due to the discarding of further waste every year? I am just grappling to understand how this impacts in the aggregate upon marine and ecological systems.

Mr ANGEL — The latest research, which you will find in our threat abatement plan, from a number of scientific studies suggests that about 28 per cent of marine life has plastic in it. So, given that every piece of plastic we have ever produced is still in the environment and given that we are increasingly consuming more plastic each year and continuing to dispose of it in the environment at high rates, there is accumulation of plastic in the environment and in the oceans.

The DEPUTY CHAIR — Does that include microbeads as well?

Mr ANGEL — Yes.

The DEPUTY CHAIR — So 28 per cent of marine life has either microbeads or plastic particulate in its system?

Mr ANGEL — No, we should use the generic term — plastic particulates — because there are a wide range of plastics.

The DEPUTY CHAIR — So it includes microbeads, though?

Mr ANGEL — Yes.

The DEPUTY CHAIR — Right. Okay.

Mr ANGEL — Yes, yes.

The DEPUTY CHAIR — That is an important definitional thing for us to understand.

Mr ANGEL — Yes. I mean, as I say, bags and microbeads are not a high percentage of the plastic being emitted into the environment, but they are highly dangerous. On the one hand microbeads are ready made to be absorbed; on the other hand, plastic bags when they are big entangle animals and the animals eat them and get problems inside them, and they also break up into small pieces. So you have got to look at not only the quantities but, secondly, the things that are problematic to wildlife and frankly, thirdly, the things that you can do something about.

One of the estimates that we have now developed as part of the whole plastic load is tyre dust. It is not natural rubber; there is plastic in it. What can we do about tyre dust? Not this generation. So our marine plastic pollution threat abatement plan is addressing the things that we can do about it now, and we will get on to the harder stuff later, but we need to stop the accumulation of plastic in the environment and coming off the Australian land into the environment.

The DEPUTY CHAIR — That is an excellent point that you have made, and I think made well, in relation to what a number of other witnesses have described as the low-hanging fruit associated with reducing the release of such plastic into the environment, whether as previous witnesses have indicated through plastic bags and packaging or through the microbeads, which is also a focus of your submission.

With that in mind around the fact that there is a lot of work to do but this is one area where work can be done, how does the bill address that objective of yours in relation to reducing the net output and release of plastic packaging into the environment?

Mr ANGEL — Okay. The bill obviously addresses plastic bags. It addresses microbeads and the packaging of fruit or vegetables. It takes an interesting approach to plastic bags in that it is an exemption process. I think that if we had taken that approach when the South Australian, Northern Territory, ACT and Tasmanian approaches came into law, we may not have ended up with the problem of so-called biodegradable and compostable bags doing the same level of damage. So we need to be very careful about what is being exempted. Those particular laws explicitly exempt so-called biodegradable or compostable bags under certain Australian standards.

The other thing to know about plastic bags is that it is not just a matter of people dropping them in the streets and being careless. There is quite a lot of plastic bag litter that comes out of landfill facilities, recycling facilities and garbage trucks. The more you are moving around on the roads or in the facilities with bags, the more that are escaping. So there are fugitive bags, which are a quite important component of what is going into the environment. We have estimated that in 2016 Victoria is going to consume 1.5 billion bags, as you can see on that document I have just sent out, and that the accepted figure is about 2 per cent are littered or find their way into the environment.

The second aspect in regard to microbeads is there is certainly a lot of global movement in various countries, with the US congress, for example, banning plastic microbeads, and there does seem to be some progress at the national level through the meeting of environment ministers. They are close to finalising an agreement with industry to ban those microbeads by 1 July next year. I will point out that it is not just facial cleansers; it is also

cleaning products. The recent study in Germany has found that there are 1000 times more microbeads, or more product, in the cleaning products than the facial cleansers in the bathroom. That in fact is why the national agreement is including cleaning products.

The DEPUTY CHAIR — Sorry, 1000 times more density of microbeads in cleansers?

Mr ANGEL — A thousand more — that is right — 1000 more tonnes because of the more extensive use of cleaning products like floor waxes and polishes.

The DEPUTY CHAIR — Right. Yes.

Mr ANGEL — So to that extent the Australian agreement is world leading, because most other ones have just gone after facial cleansers. But the ministers have also said that if it is not working within six months, then we will pass a law. One of the problems for Australia is that because other countries are already moving rather quickly, there will be an effort to dump existing product with plastic microbeads in Australia, and we really need to sort of put up the barriers to prevent that happening. I think industry, particularly those inclined to be free riders, should be warned straight up, 'We've passed a law'. You may have a sunrise element to it, but if it is not working, it comes in immediately, and I think that will have a good effect.

In relation to polystyrene I have got to say a lot of the complaints we get through the Boomerang Alliance are why have the supermarkets suddenly introduced plastic packaging for fruit and vegetables when they had never done it before. I suspect, or I think, that the reason they have done it is so that they can package it and put a little barcode on it and they can do the checkout-person-free — —

The DEPUTY CHAIR — Use as supply chain costs, yes.

Mr ANGEL — So it is more about economic move, not anything in particular about keeping food safer or fresher or more durable.

I do have an issue with one clause, where it does talk about, in relation to the microbeads:

A retailer must not, without reasonable excuse ...

I have no idea what a reasonable excuse would be to provide goods containing prohibited microbeads, given there are already exceptions.

The DEPUTY CHAIR — Well, the nature of reasonableness is that it would, at least as far as the law defines it, vary from case to case, so therefore it would depend on the individual circumstances.

Mr ANGEL — Well, I do not think anyone else has done that in other legislation. I was a bit surprised at that. In relation to polystyrene it is obviously not only an issue if it gets into the environment via fruit and vegetable packing, but when polystyrene is used like the clamshells to present hot food, it starts leaking styrene into the food. I would have thought there would also be a clause for action on that. So I think attacking those particular areas where there are proven alternatives, proven legislation and practices and a whole lot of other jurisdictions, that is not a very big step for Australia and Victoria to catch up.

The DEPUTY CHAIR — Thank you very much. The final question from me: the other thing that we have heard a lot about relates to the use of cornstarch and other organic materials to produce packaging. What is the Boomerang Alliance's view on the use of organic materials, compostable materials, to create packaging to replace or substitute current plastic packaging options that are available, and what discussions, if any, has the Boomerang Alliance had with producers or consumers of these plastic alternatives?

Mr ANGEL — Well, the first-off principle of course is that single use by itself is bad in principle — the energy or materials and the energy and materials that go in to produce those raw products is not a good practice, so why in principle should we continue to serve the throwaway society? I think that is just, in a life cycle sense, wrong. So we obviously favour re-useable bags — and I mean re-useable hundreds and hundreds of times, not something that falls apart easily.

In terms of cornstarch, yes, I have looked one at the last waste conference in Coffs Harbour. It was quite an interesting exhibit. It seemed all right, but I think I would like some more external evidence that it is okay. I

think the community are very confused, given the prevalence of the terms 'biodegradable' 'envirosafe' and 'compostable'. I am not sure we would easily get over that sort of cynicism and, as I say, why would you if you can use a re-usable bag? It is my understanding that New South Wales has commissioned CSIRO to look into what 'biodegradable' means and what is really acceptable. In the current terminology or current practices they seem to be finding a whole lot of other things, including heavy metals, in the so-called biodegradable and compostable ones.

The other aspect about compostable is that it is often only compostable in an industrial scale composting plants where there are very high temperatures. So if you want it to be truly compostable, then it needs to be compostable in the compost heap.

The DEPUTY CHAIR — As I understand it the standards vary in relation to whether or not it would have a toxic effect on soil or other organisms, including — I think worms in one instance are incorporated into one standard and not another.

Mr ANGEL — I guess I do not want to particularly criticise South Australia and the others who have done it, but they did not do their investigations well enough, and we should this time.

The DEPUTY CHAIR — How do we get better at that, then, from Victoria's perspective? If you were in charge of looking at the way in which the standard might operate — and I realise that I said I would have a last question about four questions ago, but this is obviously really, really relevant stuff — how would you modify the existing standard and the way in which education occurs to create a better distinction or a better understanding of the distinction between biodegradable, compostable and other definitions as they appear and as they have worked their way into our language around this issue?

Mr ANGEL — I guess in my mind I make a distinction between reusable — and I think people understand that terminology much better now, having seen a fair portion of the population at supermarkets use reusable bags, and it is like nothing blew up in front of them, or they did not all fall in a screaming heap and the supermarket was able to cope with it. So I think in terms of demonstrable practice people have learned that.

In terms of handing out the alternative compostable bag et cetera I guess it can have a purpose when a council wants to go into separate organic food collections and recycling, and that is certainly very important. We do have a quite serious growing problem where the organics, at least in New South Wales and some of the other places, actually contain plastics because they have a size maximum. That is just spreading more microplastic in the environment, so that needs fixing. So to the extent that if councils engage in convincing their residents to separate food waste and put it in the appropriate totally compostable organic et cetera bag, that is very important because not everyone is going to be able to take compostable plastic bags to the supermarket and fill them up with fruit and veg. They will use the other bags — the reusable bags.

The DEPUTY CHAIR — I am going to use my last, last, last question. Mr Dalla-Riva has kindly indicated to me whilst I have been talking that he does not have any questions, so I am going to steal his job lot and Mr Melhem's as well.

Mr DALLA-RIVA — You have taken about 20 of mine.

The DEPUTY CHAIR — That is good. There is a lot to find out in this. How do we work towards a better standard in relation to microbeads, and to that end could I ask you to tell the committee a little bit about the extent to which they are used in industrial and commercial products as opposed to just the domestic floor cleaning and other sorts of offerings. We see advertising that tends to indicate that if you have a toilet from which you could eat, then you have a higher standing in the community, which is an odd sort of reasoning. But how have we gotten into this situation where things like microbeads are an indicator of a cleaner life and a better life, not just in the domestic environment but commercially and industrially? What do we do about that, and how can the standard better reflect an education process there?

Mr ANGEL — By their very nature, microbeads end up 100 per cent in the environment. There are clearly a whole raft of alternatives that are more organically acceptable in the environment and continue to serve that abrasive purpose that they are in there for — to make things look white and clean or shiny or whatever. I guess we are not trying to change the perception that something that looks clean and shiny is acceptable.

The DEPUTY CHAIR — At what cost, I think, is the next question there.

Mr ANGEL — We are not having that radical a change. But in the places where those plastic microbeads have been banned no-one has had a problem in finding alternatives. So sure, if you want to preserve that sort of marketing presentation from those products, they will continue to be acceptable in the marketplace.

The DEPUTY CHAIR — And chemically — rice bran and other organic abrasives that can be used for the same purposes on cleaning, polishing and cleansing — what has the response been like in jurisdictions where microbeads have been banned and those products have been modified to use organic product?

Mr ANGEL — Zero negative problem.

The DEPUTY CHAIR — Zero negative problem.

Mr ANGEL — No-one is complaining. I have yet to see anyone say, ‘I bought a cleaning product that had mashed-up apricot kernels in it and I didn’t get as good a result, and I feel ripped off’. I am not aware of anybody worrying about it, and I think part of that exercise has been the fact that the industry has become increasingly convinced they have to do something about it because of the — let us call it — accidental damage or the decisions they took and the damage they are doing to the environment, and they took it up. Their marketing is not saying, ‘I used to sell you a product with plastic microbeads, and it did a better job than the one I am now selling you’.

The DEPUTY CHAIR — This one does just as good a job and is not having the unintended consequence of damaging the environment.

Mr ANGEL — They are using that in their advertising, yes.

The DEPUTY CHAIR — What about in the industrial and commercial space; have microbeads featured in the product offering that operates in that non-consumer side of the market?

Mr ANGEL — I honestly do not think the people using it know there are plastic microbeads in there. It has never been brought to their attention.

The DEPUTY CHAIR — So it has not been a key part of the way in which industrial and commercial cleaning systems have evolved over the last couple of decades?

Mr ANGEL — Well, it may well have been, and they may well produce a result that people are pleased with, but I do not think they have any idea there are plastic microbeads helping in the process, no.

The DEPUTY CHAIR — There is no distinction between what a plastic microbead and an organic abrasive might achieve in an industrial and commercial sense? There is no distinction there around the outcome and the result?

Mr ANGEL — Apparently not.

The DEPUTY CHAIR — When you say ‘apparently not’, what do you base that on?

Mr ANGEL — The amount of research we have done, and we have yet to come across an industrial user of those cleaning products complaining, really. Maybe they will — I do not know — but I would imagine that the companies that are now cooperating with the Australian agreement have already taken into account whether there will be complaints from customers, and they clearly do not expect it. They are planning for the transition.

The DEPUTY CHAIR — Which companies do use non-plastic microbeads in their industrial and commercial applications?

Mr ANGEL — I will have to get advice on that.

The DEPUTY CHAIR — Yes, if you could actually do that and provide a list to the secretariat, we will send you a transcript after today so you have a reminder of that further follow-up. But that would be useful because, again, understanding what industry and the market says around the change in other jurisdictions would be a really good thing for us to have.

All right. After having said ‘last question’ for about 15 minutes now, I will hand over to you, Ms Dunn.

Ms DUNN — Thank you, Mr Angel, for your presentation. I am just going to be a devil’s advocate in asking this question: why would we not just increase the recycling collection of plastic bags as an option to deal with this issue?

Mr ANGEL — I think that has already been tried. As you discussed with your previous witnesses, the supermarkets do have a wheelie bin or whatever. If people notice it, they can put in their used plastic bags. Obviously an incredible minority of people do that. Because a large portion of fugitive plastic bags come from the truck and facility movements, sure, increasing recycling is in theory going to increase the amount of plastic travelling along the roads and going through industrial processes and escaping.

The only other thing we have ever done is various voluntary programs. Despite extensive publicity and despite extensive support from industry, the retail sector and government, why do people still say they want to ban plastic bags? Why do the results of every survey we do — and they are proper surveys — say, ‘We want to do something about plastic bags’? People are not convinced that it is working.

Ms DUNN — Thank you.

The DEPUTY CHAIR — So if there is social licence — —

Mr DALLA-RIVA — They will go to a supermarket and still grab plastic bags.

Mr ANGEL — Of course. It is incredibly convenient. There is a transitional behaviour change, which all the current states have had to go through. The retailers have had to communicate with their customers. After about three months no-one remembers, really. I will say — I have talked to groups like Woolworths and what have you — there are two demographics that initially complain. One is that of older men sent out by their wives to do the shopping. They forget to take the reusable bag.

Mr DALLA-RIVA — Hear, hear! I am not that old yet.

The DEPUTY CHAIR — Older men sent out, Mr Dalla-Riva.

Ms DUNN — Do not get distracted, Mr Angel.

Mr ANGEL — Secondly, is the younger — if it is the right term — hip person who walks around with just a phone.

Mr DALLA-RIVA — Cesar.

The DEPUTY CHAIR — That is Mr Melhem, so that has covered off 50 per cent of the committee.

Mr ANGEL — But they too have obviously adjusted in the other states.

The DEPUTY CHAIR — So we do still have this gap. There are people who aspirationally really want to help but who in their habits are not quite there yet.

Mr ANGEL — Of course. We live in an incredibly busy society, and convenience is highly valued. But people also value protecting the environment. I think that is why people say the most environmental behaviour they exhibit is recycling. It is not a very hard message to get to them.

Ms DUNN — I want to turn to the COAG discussions, which I think have discussed banning plastic bags and the impact of those bags on the marine environment for some time. It is my understanding that the COAG process is using a 2007 set of data and not current data. I am just wondering if you have any insight into that, if that is the case, and what the differences might be between relying on that 2007 data versus what is currently happening.

Mr ANGEL — That is why we handed out that additional information. They do use the 2007 data, which is at the point when the voluntary retailers exercise stopped. The indications are that after that, use or acceptance of plastic bags increased again. There was also a suggestion that they had already understated the total consumption of bags. Not surprisingly in ensuing years consumption increased with the growth of the

population, shopping habits et cetera. So that is why we say that there will be 1.5 billion bags consumed this year in Victoria, and the current fugitive and littering will continue as consumption goes up.

Ms DUNN — Commensurate with that.

Mr ANGEL — Yes, the numbers relating to littering et cetera go up. I have got to say that it has been a characteristic of government processes, particularly federal ones, to understate the problem. The Boomerang Alliance has had a long debate on a whole lot of issues. Whether it was on used tyres or beverage containers, they always got the consumption numbers wrong. As a consequence that understated the policy that was required, and it overstated the amount of recycling percentage of consumption. I could give you a whole book on the mistakes that have been made by federal and state analyses of consumption.

Ms DUNN — In your view is that because of the inadequacies of data collection itself, or is there a different reason why that data is not reflective and why it is understated?

Mr ANGEL — I think it is a combination of agencies liking the numbers they saw. I think there were certainly mistakes in the collection of data. That includes that they would often forget that we import product. They would often say, 'What is the plastic product produced in Australia?'. But frankly, we import enormous amounts — at least 50 per cent in the case of beverage containers. I sat on the Australian Packaging Covenant council for some years, and I kept saying, 'What are the import figures?'. They would say, 'I don't know. They are probably small'. Now they have had to increase the actual consumption rate by 50 per cent because they have finally bothered to find out what the imports are. So it is a combination of conservative approaches to policymaking and liking the numbers they saw, which meant they did not have to go into the extremities of developing regulation. Frankly, they should have sacked the consultants.

Ms DUNN — Yes. It just was not fulsome enough. It was not as far-reaching and detailed as it should have been.

I think it is pretty clear even in the evidence to date that we have heard as a committee in terms of some of the environmental impacts in relation to a ban on plastic bags and microbeads, but I am just wondering if you have any views in relation to the likely perhaps economic and social impacts should this bill progress — what those impacts might be, looking at it from a different point of view than just environment.

Mr ANGEL — In terms of the consumer with bags, obviously the shops buy the bags and that is passed through in the prices, so they will not be charged for that anymore. In terms of microbeads, I put everyone on notice. I am not aware that the component of microbeads in any of those products is a high part of the particular cost of that product.

Interestingly, a couple of weeks ago we were in Byron and they have just decided to continue a voluntary plastic bag ban, and 90 per cent of all retailers no longer stock the bags except Woolworths — they reportedly were not allowed to join in that ban from head office. The retailers we talked to — for example, a small IGA supermarket noted he was saving some \$3500 per month by not having to buy bags. Others have noted a 40 per cent reduction in waste costs as the customers who — like Bunnings — now use the shop's old boxes for the groceries so they are no longer having to get the waste collected and do stuff with the boxes. As far as I can tell, without me going into the economic benefits of saving the marine environment, it is all economic upside.

Ms DUNN — That is a good insight. Thank you, Mr Angel.

The DEPUTY CHAIR — I am so sorry. You are very useful as a witness so we have to kind of cram in as much as we possibly can while you are here. I just wanted to see what view the Boomerang Alliance had, if any, in relation to changes in technology to better process and minimise risk associated with plastic packaging and what difference, if any, that has made in the volume being released into the environment, whether inadvertently through the fugitive bag scenario described or because of changes in standards across the world, in developing nations in particular.

Mr ANGEL — In order to establish a recycling market, there needs to be, one, a sufficient quantity of the material, and secondly, it needs to be economically competitive with the alternative raw materials that may have been used. In the case of the container deposit scheme, that is achieved by increasing the rate of recovery — the 10-cent incentive for any different ranges of people — and secondly, producing a much cleaner product so it

can compete on the market. Inevitably when you collect that quality of material and it is worth more in the productive processes than the current virgin materials, then new industry establishes. It is very hard to see that similarly occurring with bags.

The DEPUTY CHAIR — Why?

Mr ANGEL — Frankly, the material is just not worth that much. It may be as part of a mixed product of plastic recyclate, but the actual cost of collecting it all — it is not like you can put a plastic bag in a reverse vending machine. It is just the collection cost is incredibly difficult to finance. I know that some countries have imposed a levy on the bag, sometimes doing useful things with the amount of money that is collected.

The DEPUTY CHAIR — It is a reactive step to a problem as opposed to a proactive one.

Mr ANGEL — Yes. The problem of course is you have got to keep increasing the levy as the disincentive, and frankly, the administration cost on particularly small to medium size enterprise is not really worth the effort. So yes, with some products you could improve the collection system and create policy and economic instruments to draw that material into the collection system. Otherwise it is just not worth the effort. Polystyrene you can recycle.

The DEPUTY CHAIR — Sorry, we had earlier witnesses saying you could not recycle polystyrene.

Mr ANGEL — I thought you could, but I will check too.

Ms DUNN — I am sure there is a number 6 in the triangle on polystyrene.

The DEPUTY CHAIR — Yes, I thought there was a triangle reference to polystyrene. If you could provide some further information to the secretariat on the recyclability of polystyrene, that would be really useful, because again that is another significant part of what we are trying to get our heads around here. The other thing I just want to understand finally is: am I correct in my understanding that whatever recycling efforts may be made to tackle the build-up of plastic materials, microbeads and things like tyre dust — so those very tiny particulates — are not able to be, with any of the technology that we have or are likely to have, processed, recycled or their impact on the environment minimised?

Mr ANGEL — My understanding of plastic microbeads is that they already are a waste product of plastic manufacturing. I suppose you could ask what are they going to do with them if they can no longer have a market for them. I imagine given so many jurisdictions are now banning the plastic microbeads, the industry has an answer. God knows where they might turn up again in another product.

The DEPUTY CHAIR — But we cannot recycle a microbead because they automatically make their way into the environment — is that correct?

Mr ANGEL — Yes, I mean, they are — —

The DEPUTY CHAIR — Yes, okay. So that is the end of the line for microbeads?

Mr ANGEL — The idea is that they get washed down the drain, yes.

The DEPUTY CHAIR — Yes, and so therefore, unless production of microbeads can cease, there is no way to prevent them from making their way into the environment and having the sorts of impacts that they have and are documented to have?

Mr ANGEL — Yes, I mean, I imagine there are no very, very fine filters that you could put on every bathroom drain that could collect them all, and then someone would come around and take them from your house.

The DEPUTY CHAIR — It would be a very big drainage — —

Mr ANGEL — It would be a rather expensive and silly exercise.

The DEPUTY CHAIR — It would be a very big sink-clearing exercise. Finally, how do other jurisdictions deal with the changes to the volume of plastic that they now have as a consequence of not using microbeads as a way of making further use of that material?

Mr ANGEL — The banning of plastic microbeads is a fairly recent occurrence in a lot of jurisdictions. In the economic studies — the US Congress did one on a law that was passed in Congress last year, I think. They did a very brief economic analysis, and it did not seem there were any particular problems with not having microbeads in the product and being worried about what to do with the microbeads that are not being used in the products. So, as I say, it is an interesting question to ask industry — if you are no longer going to be able to sell this product for plastic microbeads, what are you going to do with it?

The DEPUTY CHAIR — What do we do with the plastic, yes?

Mr ANGEL — It would not be a good outcome if they then decided to chuck it in the environment in some other way.

The DEPUTY CHAIR — Yes, well, putting the cart before the horse is something that just occurred to me as a thought while you were answering that particular question. My closing remark for you to perhaps comment on. Those jurisdictions that have banned plastic bags would still be dealing with the consequences of an aggregate of plastic material in the environment. How has that tapered off since those bans have been introduced and implemented?

Mr ANGEL — Both South Australia and the Northern Territory have undertaken surveys of the reduction in use. They claim very significant uses. There is anecdotal evidence of course from both of those jurisdictions that the alternatives — biodegradable, compostable et cetera — are still in the environment, and you know, people sort of cynically say, ‘Well, it didn’t work’. I mean, it has. The record is the supermarkets are giving out far, far fewer plastic bags. But I do think that since that legislation was brought in, a whole level of anxiety and concern about marine plastic pollution has risen dramatically. Obviously people were concerned about littering the environment and bags blowing around the streets et cetera, and you know, in the water and on the beaches. This additional element, I think, just makes it far more acceptable to anybody in the community. They may have had a number of objections about why they like having the convenience of a plastic bag, but when you explain that it is entering the environment to such an extent that the Senate has an entire plastic pollution issue and claims there is a looming health crisis, it is not very hard to convince people this is the right thing to do.

The DEPUTY CHAIR — Thank you very much, Mr Angel, for all of your evidence. As I indicated earlier, there will be some further material sought by the secretariat in relation to things that you are taking on notice, and you will be provided with a copy of the transcript from today as well.

Mr ANGEL — Thank you very much.

Witness withdrew.