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TRANSCRIPT OF PROCEEDINGS

PRODUCTIVITY COMMISSION

INQUIRY INTO WASTE GENERATION AND RESOURCE EFFICIENCY

MR P. WEICKHARDT, Presiding Commissioner

TRANSCRIPT OF PROCEEDINGS

AT MELBOURNE ON THURSDAY, 23 FEBRUARY 2006, AT 8.50 AM

Continued from 22/2/06

MR WEICKHARDT: Good morning, and welcome to the public hearings for the Productivity Commission inquiry into waste generation and resource efficiency. My name is Phillip Weickhardt. I'm the presiding commissioner in this inquiry. The inquiry started with a reference from the Australian government on 20 October 2005. The inquiry will examine ways in which waste management policies can be improved to achieve better economic, environmental and social outcomes. The inquiry covers solid waste and more specifically the issues associated with municipal, commercial and industrial and construction and demolition wastes.

We have already talked to a range of organisations and individuals with an interest in the issues, and submissions have been coming in to the inquiry following the release of an issues paper in December. I'm grateful to many organisations and individuals who have already participated in the inquiry.

The purpose of these hearings is to provide an opportunity for interested parties to discuss their submissions and their views on the public record. Following these hearings in Melbourne, other hearings will be held in the next two weeks in Adelaide, Brisbane, Sydney and Perth, and we have already had hearings in Canberra. We will then be working towards completing a draft report for the government by the end of May, having considered all the evidence presented at the hearings and the submissions, as well as other relevant information. Participants in the inquiry will automatically receive a copy of the draft report.

We like to conduct all hearings in a reasonably informal manner but I remind participants that a full transcript is being taken. For this reason, comments from the floor cannot be taken but at the end of the proceedings of the day, I'll provide an opportunity for anyone wishing to do so to make a brief presentation. Participants are not required to take an oath but are required under the Productivity Commission Act to be truthful in their remarks. Participants are welcome to comment on the issues raised in other submissions or by other speakers here today. Transcript will be made available to participants and will be available on the commission's web site following the hearings. Copies may also be purchased using an order form available from the staff here today. Submissions are also available on the web site or by order form.

To comply with the requirements of the Commonwealth occupational health and safety legislation, I draw your attention to the fire exits, evacuation procedures and assembly points. Can I also ask the audience to please turn off their mobile phones to be silent and I will shortly welcome Dr Jo McCubbin, Wellington Residents Against Toxic Hazards. Thank you. We will just pause until 9 o'clock.

MR WEICKHARDT: Dr McCubbin, good morning.

DR McCUBBIN: Good morning.

MR WEICKHARDT: I should make clear you're now on speakerphone in the hearings and I will introduce you. I'll ask you to then introduce yourself and formally name who you are representing and perhaps we'll take it from there. Assume that I have read your submission but clearly you may want to speak to that and then perhaps we'll take some questions. We've allocated half an hour to this, if that's okay with you.

DR McCUBBIN: That's fine.

MR WEICKHARDT: Okay, all right. Our first participant this morning is Dr Jo McCubbin from the Wellington Residents Against Toxic Hazards group. Perhaps you'd just for the record introduce yourself.

DR McCUBBIN: Me?

MR WEICKHARDT: Yes.

DR McCUBBIN: Okay. I'm a country paediatrician. I became involved with WRATH - Wellington Residents Against Toxic Hazards - about four or five years ago. I need to make it clear, WRATH at the moment is fairly busy organising a VCAT case. This is me going off on a little tangent. I don't claim to represent them, although we have an interest in this whole process coming out of our particular problem with our local toxic waste dump, so to speak.

MR WEICKHARDT: Okay. So for the formal record, you simply want to be Dr Jo McCubbin?

DR McCUBBIN: Yes.

MR WEICKHARDT: Okay, thank you. Over to you.

DR McCUBBIN: Who am I talking to?

MR WEICKHARDT: Phillip Weickhardt. I'm the presiding commissioner on this inquiry.

DR McCUBBIN: Anybody else?

MR WEICKHARDT: Yes, there are a range of other people in the hearing room.

DR McCUBBIN: Okay. I guess the two issues particularly that, reading through the issues paper, were important to me, were the government legislation that gets in the way of doing this sensibly and my big problem is with the Victorian food safety regulations which have been in now since around about 2000, caused a lot of angst being brought in. I'm not saying, "Well, just undo them," but I believe that other states haven't gone for quite such draconian choices, and I think there's an opportunity there to look at whether there really is any difference in the food safety in the different jurisdictions.

In Victoria, there must be a huge amount of food wasted that would be okay. There must also be a huge amount of packaging and use of chemical which generates its own waste stream which again is not necessarily strictly logical. So my feeling is that we do need to look quite closely at that, what is healthy and what's not, and what's waste and what's not, because I've mentioned in my submission that there's a lot of quite illogical things that have come out of the food legislation. It's based on shonky science in the first instance, because I don't know that we really believe that that many people are injured by food in a year in Australia, but saying to people, "You can't have jam made from fruit on your trees because you keep chooks and they might poo on your apricots," I mean, that's completely illogical because if you make jam, you boil it for about three hours and there's no way that any organisms could survive the process, so that's just silly. But there's also stuff that is supposed to be sensible such as preparing a food surface if you're running a local fete and everybody wants high standards for food in that situation but then there's things like you spray chemicals all over the surface and then you prepare food on it. I think that would worry some people, plus that brings in the chemical containers and all that side of it which is another part of the waste stream.

It means that you can't take your own takeaway cup and get it refilled in a cafe. That bugs me because I hate polystyrene cups. So there are things in this legislation that could be loosened up to make it more sensible and more waste efficient and I really think that probably a more sensible outcome would be to back off a little bit with what Victoria does. I don't know a lot about what happens in other states but I do know that in New South Wales it's a bit more relaxed and I think comparing those two areas and seeing whether there is a difference in the waste produced and a difference in the health outcomes would be a very sensible thing to do. Do you want to ask me questions about that or shall I move on to my other composting thing?

MR WEICKHARDT: I think keep moving and I'll come back, thank you.

DR McCUBBIN: Okay. I have a particular interest in the compost issues because, just to give a bit of background, our local sewerage farm cum toxic landfill has recently put up a proposal to - - -

MR WEICKHARDT: Jo, when you're talking about the local - I'm not quite sure

what is local. Where are you?

DR McCUBBIN: Okay. To backtrack, I live in Sale. There has been for about 15 years a sewerage farm, which was probably a good idea in the 1950s but a bit questionable now, which is positioned between the Gippsland Lakes and the Ninety Mile Beach on old sand dune country. It's taken the waste from the Latrobe Valley for about 50 years. They're not well trusted by the local community, it would be fair to say. They are trying to lift their game and improve performance. In the 80s they started taking hazardous waste as well as just sewerage and the community were fairly concerned about things then.

MR WEICKHARDT: This was formally licensed, was it?

DR McCUBBIN: They upgraded their licences to be able to take waste from the Latrobe Valley at the time when they were conducting trials with coal to oil in the 80s, so to take some of that waste, and that has gradually been expanded. They take asbestos. They take a lot of Esso's waste. So it has become a hazardous waste facility by stages.

MR WEICKHARDT: Because - and I mean, without trying to dispute what you say - I thought that the state government was working on the proposal to put some form of hazardous waste facility up near Mildura as being the only Victorian licensed hazardous waste facility, so I'm not sure whether they're - - -

DR McCUBBIN: This is all part of that. The original hazardous waste siting advisory committee was going to be a three-stage process. The first stage they wanted to get organised was contaminated soils which only a small percentage of it was the toxic contaminants; then the next two stages were going to be increasingly hazardous. Dutson Downs was chosen as the only site left standing in the selection process for contaminated soil. It's actually more than 200 kilometres from Melbourne which immediately creates a problem just for distance.

MR WEICKHARDT: Is Dutson Downs your facility, is it?

DR McCUBBIN: Yes, sorry, I didn't mention its name.

MR WEICKHARDT: Thank you.

DR McCUBBIN: That was two and a half years ago that the minister announced that Dutson Downs would go ahead with the contaminated soil treatment and the middle of last year, they produced a works approval application and we're still going through that process at the moment.

What they're hoping to do is sort of cobble into that process an idea to clean up

another part of their act which is called the cardboard pond. For a long time they've been just accepting food industry waste largely but some oil industry stuff as well, poured it into a swamp which just sits there and stinks, and for a long time they've been saying, "Well, we really need to lift our game with this," and the EPA would say, "Yes, you certainly do." They've been for a number of years looking at ways that they could use some of the putrescible waste that otherwise would be good for composting.

MR WEICKHARDT: Jo - sorry to keep interrupting - but a couple of points: one is I don't want to sort of get too distracted by hazardous waste in that it's outside our terms of reference, but I know it impinges upon your next point which relates to compost, so I'm sort of interested in that on the periphery. In terms of the management of this facility, who is actually responsible for it?

DR McCUBBIN: It's managed by Gippsland Water which is the commercial name of the Latrobe Valley Sewerage Board.

MR WEICKHARDT: Right. Which is a state government instrumentality?

DR McCUBBIN: Exactly.

MR WEICKHARDT: Okay, thank you.

DR McCUBBIN: So do you want me to move on to compost?

MR WEICKHARDT: Yes, keep going.

DR McCUBBIN: Okay. So everybody was a little bit surprised when suddenly they were going to treat contaminated soil by composting.

MR WEICKHARDT: Yes.

DR McCUBBIN: We're aware that it works for some of the shorter chain petrochemicals and that's a process that I think some of the oil companies have been looking at as well but it's not so certain that it works for some of the other chemicals they'll be encountering. Our concern is that they seem very vague about how it's going to work. One of our gripes is that they should have done the research and development before they said they could do it, but it's quite possible that there's been a very bit of government pressure to get moving with this.

So the concern is - and they've told public meetings - that if the compost is not really up to standard, they'll landfill it anyway. It seems to me a huge waste of all the good side that goes into that, the food waste that would make admirable compost. Mixing it up with toxic chemicals seems like a very bad way of moving forward. We

wouldn't have a problem if they were making really useful compost or land improver that would be of use to the agricultural industry, particularly as oil prices rise and that's going to impinge on the cost of fertilisers. So I think there's compost and there's compost.

MR WEICKHARDT: Yes.

DR McCUBBIN: I think there's a lot of science happening around Australia. I know Murdoch - some of the universities in New South Wales and Queensland - are doing quite a lot of work on organisms in compost, so I think that is a very important part of the future treatment of waste.

MR WEICKHARDT: Right, okay. One of the comments that has been made to us at a hearing in Canberra is that New South Wales have introduced a range of regulations that sets standards for compost to regulate, perhaps very sensibly, first of all, heavy metal content.

DR McCUBBIN: Absolutely. That's important.

MR WEICKHARDT: But, secondly, to regulate pathogens in compost and the individual that made this point to us at the hearing was saying that the outcome from this is a requirement almost that compost be treated at an extraordinarily high temperature which they were saying for compost made from green waste is actually counterproductive. You destroy a number of the bacteria that in compost actually makes it a useful soil additive, perhaps again along the same lines as you pointed out, in food additives or if you're composting animal or human manure, then maybe treatment of compost to ensure pathogens are not present is important but they were sort of again perhaps along your argument on food standards saying that this is a regulation that's sort of producing perverse outcomes and meaning that a lot of compost is not being distributed because it didn't meet the standards and is either accumulating in great piles or is being landfilled.

DR McCUBBIN: I think that's right because you really are going to have to look at putting back the composting culture organisms after you've sterilised or pasteurised it, whatever term you want to use, for killing the pathogens. I guess I'd stick my neck out a little bit and say just because something goes in there containing E.coli or some scary-sounding microbiological that we've sort of read about in newspapers and everyone goes, "Ooh-aah." It may not necessarily be a problem at the end. I mean, there are pathogens and there are pathogens. There are some things that perhaps could be a problem. We know that you can get Legionnaire's disease from compost, so people have been fairly careful about that but I think probably just an education program has made a lot of difference to that. People who at risk are a bit more careful and there are warnings.

MR WEICKHARDT: Yes.

DR McCUBBIN: Maybe there are lessons from that that could be useful. I think human effluent and animal effluent is an issue because certainly there are diseases that could be passed on in that way but I guess it may be that by the time the good composting organisms have chewed their way through most of it, they may have changed a lot of the composition so that it's not necessarily still going to be a problem.

MR WEICKHARDT: Yes.

DR McCUBBIN: I mean, it still could be. I think we need to be cautious. Your comment also about the heavy metals I think is very valid because there's research showing that you can sometimes get organisms which actually help to concentrate the heavy metals in the crop that you're growing and then it gets into the food chain, so we do have to be very cautious there.

MR WEICKHARDT: Yes. At the moment, does this facility at Dutson Downs actually produce compost which is being distributed externally?

DR McCUBBIN: No.

MR WEICKHARDT: Okay. So what at the moment happens to green waste and putrescible waste? It's all thrown into this swamp, is it?

DR McCUBBIN: Green waste is not but certainly there's lots of dairy industry in Gippsland. If there's a plant failure or there's something that doesn't measure up to standard, that all gets poured in there. Also, sump oil and things like that, there's also a move to include stuff from the fishing industry.

MR WEICKHARDT: Oil is going in there?

DR McCUBBIN: Yes. I was talking to a patient's dad the other day and he said that the sump from the factory where he works, a mechanical place, every now and then they drain that and it gets taken to the cardboard pond at Dutson.

MR WEICKHARDT: Because certainly there is a formal oil - - -

DR McCUBBIN: Yes, I think this is probably a watery mixture.

MR WEICKHARDT: Okay.

DR McCUBBIN: But he and I had that conversation, "This seems a waste. What a pity they couldn't extract it."

MR WEICKHARDT: Yes, okay. So what happens to green waste down there?

DR McCUBBIN: I know a lot of it gets - I can't speak for grass clippings but a lot of tree clippings and things get recycled on playground surfaces and garden pulp. I'm not actually sure of the total process locally, but that does not go to the Dutson Downs facility. They're looking to get that site in there if they go ahead with their composting plan.

MR WEICKHARDT: Right, okay. What about other recyclables down in your area, how are they handled?

DR McCUBBIN: Again, rumour and innuendo plays into this. We've had what looks like quite a good recycling business running probably for about the last five years. There were an awful lot of ads in the first few years saying there must be no traces of food on anything you put out for recycling, and countless people have told me that when they've inquired into it, anything that's got food on it gets stuck in landfill.

MR WEICKHARDT: Certainly I don't want to pretend I'm any sort of expert in this area at this stage but we've been to a number of recycling facilities in Victoria and New South Wales and certainly plastic and metal containers, traces of foodstuff are irrelevant according to the people that we've spoken to.

DR McCUBBIN: Good.

MR WEICKHARDT: Cans get crushed up and baled; they go and get thrown into steel furnaces, a little bit like your story about the chicken poo and the jam at something like - - -

DR McCUBBIN: Yes, they're melted down at - - -

MR WEICKHARDT: - - - 1400 degrees Centigrade. There's probably not too much food waste left.

DR McCUBBIN: Exactly, and that I think is sensible. It really shouldn't make any difference for anything that's heated to a high temperature. But no, we have that. It could be easier with the plastics because you're sometimes peering at a small container that's got a little triangle with some number in it and wondering exactly what the number is and whether it goes in the recycling or not.

MR WEICKHARDT: Yes.

DR McCUBBIN: I guess that will evolve over time.

MR WEICKHARDT: That is an issue because again, from what we've been told, there are two primary plastics that I guess there's significant value in sorting, the PET clear sort of Coke bottle type of things and they are definition recycled in significant volumes, and the high-density polythene, the milk containers and things like that. Other plastics with different numbers on them tend to be baled into mixed plastics and in some cases, they're being exported in containers to places like China where they're sorted into their sort of more detailed constituent parts and supposedly recycled. Some people are uncomfortable with that and some people say, "Well, our labour costs really can't justify the sorting of that into their individual components, and so if you want to recycle them, that's the only way to make it happen."

DR McCUBBIN: Yes, and I guess then the energy equation becomes a little bit problematic, particularly as oil gets more expensive, the precursors of non-recycled plastic get more expensive, but can you afford to shift them to China or do you set up a local industry? The market will tell us, I guess.

MR WEICKHARDT: That's one argument. Another argument some people have put is that some of these things in the right facilities can actually be converted back into energy very safely, environmentally safely, and the molecules were borrowed from the petrochemical stream in the first place, so you use them back again as a fuel. So there are various arguments which I think are still all being played out.

DR McCUBBIN: Yes. The plastic that drives me to distraction is the sort of double plastic packaging, the sort of thing that toys are in and you can't open them in the back of a car unless you've got pliers. That drives me nuts. It seems to me excessive and I wonder whether we really have to have that.

MR WEICKHARDT: Yes.

DR McCUBBIN: It takes me back to my days as a kid and it plays into the food handling; our bread was just dumped in the bin by the baker and who knows how often he'd washed his hands, but we didn't seem to get sick from eating it. I think the packaging and the recycling of bottles and things is another huge issue that we could try a lot harder with, but I think some government regulations do get in the way of that, such as the food one.

MR WEICKHARDT: Yes, I think this is often the problem; you pull one lever and it has some good outcomes but it also has some other effects which are not necessarily desirable. One of the issues that's been referred to by some participants in this inquiry is that the whole issue of commingling - which was introduced for good reasons of health and safety, those collecting recyclables who used to either get bad backs lifting crates or get hit by cars running along behind trucks - the change to a sort of commingled bin has had some desirable outcomes in health and safety and

also in terms of encouraging householders to put more recyclable products out. It's, on the other hand, apparently reduced the amount of good quality paper you can recover because it gets contaminated and the glass bottles get broken, so - - -

DR McCUBBIN: I guess that begs the question though whether putting a refund on glass bottles, for example, would cut that down. I mean, walking to school just now, there were three broken bottles between home and the school and you sort of think, well, if people got 5 cents for returning them, would they be there?

MR WEICKHARDT: Yes.

DR McCUBBIN: I suspect some of them would be because the people who dropped them were probably drunk at the time, but I think I mentioned there that in my younger days, I worked in a milk bar and it used to drive us to distraction when the kids turned up with their sacks of recycled bottles. So I think that's an inefficient way of collecting them but I think it would be worth revisiting that scenario because I think there were some positives in there.

MR WEICKHARDT: Yes, we have had and we will get some more advice on container deposit legislation. We're going to South Australia tomorrow and - - -

DR McCUBBIN: They will have it all.

MR WEICKHARDT: - - - I'm sure they'll tell us how wonderful it is. Other states have made comments that it has again some downsides as well as some upsides.

DR McCUBBIN: I read just the other night that in Germany, they have now changed their bottles to make them more efficient to recycle and transport. They're lighter; I hope they don't break more often.

MR WEICKHARDT: That's unfortunately one of the trade-offs, isn't it?

DR McCUBBIN: Yes.

MR WEICKHARDT: All right. Look, Jo, thank you very much indeed for your submission and for your input. Is there anything else you wanted to add?

DR McCUBBIN: No, probably not that people more able than me haven't already mentioned or are going to.

MR WEICKHARDT: It's all useful input. Thank you for your interest and your contribution.

DR McCUBBIN: What happens at the end of it? Do you put out a report that we

can download, that sort of thing?

MR WEICKHARDT: Yes. Well, I should say a number of things: first of all, this hearing, a transcript is being made and you will be able to view that and download that from our web site. We are aiming to produce a draft report which will be released in late May and again that will be available to all participants and be downloadable from our web site. We will then hold a range of public hearings into that draft report in the second part of July and we will then send our final report to government in late October.

DR McCUBBIN: Right, okay. I'll look forward to all of that information filtering through.

MR WEICKHARDT: Okay.

DR McCUBBIN: Okay, thank you very much for having me.

MR WEICKHARDT: Thank you very much indeed.

DR McCUBBIN: Okay, bye.

MR WEICKHARDT: Okay. We'll briefly adjourn these hearings until our next participant, the Waste Management Association of Victoria.

MR WEICKHARDT: Our next participant is Sam Bateman from the Waste Management Association of Australia. Sam, if I could get you to just introduce yourself and your position in your organisation and then we'll hand over to you to say what you'd like.

MR BATEMAN: Thank you, Phillip. My name is Sam Bateman. I am the chair of the national landfill division of the Waste Management Association of Australia which was established in about 2003 and I'm here to present some more information, some clarification on a submission made on behalf of that national division.

The national division, as I said, was established in 2003 and it's made up of state based landfill working groups from Western Australia, South Australia, Victoria, Tasmania, New South Wales and Queensland and these local working groups have their own activities, state based, but there are some national issues which the national division takes on board. The things that we get involved with are organising conferences, speaking tours, we have a national landfill survey and there's some information about it on the board now, on the slide. We are organising excellence awards for landfills nationally and we represent the landfill members of the Waste Management Association. We don't say that we represent the landfill industry as such but we do try to reflect the views of our members.

Just on the first slide I've got, there was a national landfill survey carried out last year; this is the first one that's been done in Australia. We found that the information on landfills was quite lacking because it was based on state based EPA surveys and databases which are really more to do with regulatory issues; you know, landowners, licence numbers, very little about the actual infrastructure at landfills and what landfills are actually doing. A couple of things that came out of that I'll just mention: about two-thirds or 68 per cent of the solid waste handled in Australia is handled in about a hundred landfills throughout Australia and they're all the larger landfills, taking over 100,000 tonnes a year. So what I'm saying is that there are an awful lot of small landfills around Australia; there's 650 throughout Australia but the bulk of the solid waste is handled by a smaller number of larger landfills which have got the resources and capability to manage the waste in best-practice methods.

Another thing I'd point out is that about 60 per cent of these large landfills used quarried airspace to establish themselves; in other words, they come into a parcel of land which has been quarried out for some natural material and refill the land and restore the land.

MR WEICKHARDT: Can I just clarify then, does that mean that the remaining 40 per cent of people are actually digging a hole to start with?

MR BATEMAN: Well, yes, they would be filling a valley - it's called a valley fill where there's a valley. It could be cut and filled, where they actually start with a

virgin bit of land and dig a hole in it and create a mound or a trench and fill, which is another smaller version of that.

MR WEICKHARDT: Thank you.

MR BATEMAN: There's best-practice guidelines in place in Western Australia, South Australia, Victoria, New South Wales and Queensland and these best-practice guidelines for landfill cover basically the same areas of the landfill siting and operations and closure. The landfill industry is very highly regulated and throughout Australia, it is coming to a sort of consensus with the regulators and the industry what the best-practice approaches are to landfilling to minimise impacts.

The other thing is that there is plenty of airspace still available through the quarry industry or other suitable sites in most capital cities in Australia. The exception would probably be Sydney which has a difficult situation because there are very few quarries in Sydney because of the geology. So most other cities, for instance, Melbourne, has got decades of airspace currently licensed and available for landfilling.

The next thing I want to move on to is what is best practice at landfills.

MR WEICKHARDT: While it's fresh, rather than come back to it, can you just clarify this, the availability of suitable sites. I mean, I guess there are two things, suitability; one if the right geology, so that people refer to the fact that it's undesirable to have landfill and sandy areas where you might get leachate migration, and the second is whether or not it's conveniently situated in an area that's both acceptable from a planning point of view as a landfill facility but also close enough to the urban area to avoid huge costs in terms of transport. Somebody yesterday said, for example, that there's lots of landfill sites in the west of Melbourne but there aren't many in the east of Melbourne, but do you feel that given where Australia's population is that there is still enough suitable landfill sites that will service those sort of urban communities?

MR BATEMAN: As I said before, the larger sites, a lot of them used quarried airspace and the quarries naturally follow the expansion of urban areas. They naturally have got the same location issues as landfills; they need to be a large distance from residential areas and they tend to expand out from the urban fringes as the urban areas expand. Certainly in Melbourne, that's the way it's followed, and in the eastern part of Melbourne, I do acknowledge that there is more sand extraction than there is hard rock. Hard rock quarries are easier to manage from a landfill point of view. But with the right sort of engineering and the right sort of site and a suitable environment, sand quarries can be developed into landfills. In fact, one of the largest ones in Melbourne is a sand quarry in the eastern area near Cranbourne. There's quite a bit of airspace to the north of Melbourne as well, not just the west.

The other thing is about moving waste in the Melbourne area, it has become much easier since the new ring road, CityLink road network has been established. In fact there's now, if you like, a more competitive environment because it's so easy to shift waste around Melbourne using the road system that landfills which in the past wouldn't have been competitive in certain areas now are. So those sort of things combined - and if you look at most Australian cities, they're building ring roads to distribute the traffic around the cities and that helps traffic to move from one part to another. In the eastern part of Melbourne, you're right, they have very few landfills, in fact hardly any at all, but the waste from those areas has been distributed to other regions of Melbourne for years now quite successfully.

MR WEICKHARDT: In Sydney, our largest city, what's the answer there?

MR BATEMAN: Sydney has a lot of difficulty because it doesn't have the same quarrying industry. Most of the hard rock is brought in from outside Sydney. They have set up transfer systems through the old Waste Services New South Wales setup, a transfer station to transfer the waste to various sites and their largest sites are excavated, like the ones at Lucas Heights and Eastern Creek. They're not in a quarry and they do have a lot of problems with their waste disposal. What's happening in Sydney I think is a Sydney problem. A solution to a Sydney problem is not necessarily what is the right solution for other parts of Australia. There's a lot of other reasons in Sydney; I'd say the institutions in Sydney have been quite different in the way they've handled waste over the years. In the Sydney area, they've had a city waste authority for decades now, handling all the putrescible waste, whereas in other Australian cities, it's been much more local government focused. So there's quite a few reasons why Sydney is different and they're finding their own solutions.

MR WEICKHARDT: We visited the Woodlawn site. I don't know whether there are other sites that would be suitable within reach of Sydney and a sensible and practical transport distance from Sydney, but do you see that as being a solution for Sydney?

MR BATEMAN: I know that there's a lot of coalmining sites in the Hunter Valley but there's been difficulties in getting any sites permitted because of local objections. But if you look at the Brisbane situation, most of the major landfills are in ex-coalmine sites and they have haulage out to these sites outside Brisbane and that seems to be working very successfully and those sites are very well run. We had a conference in Brisbane, the National Landfill Conference in September last year, and we visited the Brisbane landfill sites and they're very impressive, the way they're managing those sites, and they're all ex-coalmine, so there's a possibility that the Hunter could be a - but it's a difficult political process in the Hunter Valley, I know; I was involved with that years ago, but there are large open-cut coalmines in the Hunter Valley which would be suitable.

MR WEICKHARDT: Okay, thank you.

MR BATEMAN: Moving on to what is best practice, the sites are selected to avoid sensitive ecosystems and human settlements and despite the best will in the world, there are some amenity impacts from landfills which are very difficult to manage all the time so it is best to have a reasonable buffer between you and nearby residents. There are also some sensitive ecosystems where you maybe have high quality groundwater, you might have some special wetlands or natural environments which it's best to avoid any risks. So that's part of the best-practice approach. Liners and cappings are engineered to contain leachate and other emissions; that's in the best-practice approach. These liners and cappings are becoming more and more sophisticated. In Australia, it's generally accepted that composite liners, which is a mixture of clay and HDPE plastic, are the way to go with liner systems.

There's quite a bit of work going into producing sustainable capping systems which will provide a long-term rehabilitative finish to the landfill. Sites are rehabilitated and revegetated with suitable vegetation for long-term reuse or just sustainable containment of the waste. The operations are systematically managed. More and more sites now are using international standards, the ISO quality standards, to organise the management of the operations. ISO 14001 is the standard which is used. Our own particular site, for instance, in Wollert, that I am involved with uses that standard and there's another one in south-east Melbourne run by SITA which uses the same standard.

There is a considerable amount of monitoring of the landfill to ensure that the barrier systems are performing as they're designed and the after-care of the site continued long after the site closes, so it's not just the last truck comes in, shut the gate and walk away; there's commitments for 15, maybe up to 30 years of after-care of the site to monitor it, as it slowly degrades, until it's in a condition where it's safe to walk away from because it's no longer any threat to the environment. So that's very briefly what best practice has come to in landfill. So you pick the correct site which is going to have the minimum amount of impact and you make sure the engineering and the lining of it is going to last and contain the leachate. You have a system whereby the waste material is allowed to break down naturally and then you monitor that process and then you close the site. In Victoria now, these particular processes are independently audited by the EPA, using an external auditor, so there's a very high level of scrutiny of how these systems are being built. That's the sort of approach other states are taking.

The next point I'd like to make is that landfills are continuously improving. They're not standing still. Standards are rising. New research is showing new issues to be addressed. The EPAs are well up with what's being used in other countries. New developments are coming up year after year. Just as an example of that is that

the national landfill division of the Waste Management Association has recently - or in about seven days' time will be signing a linkage agreement with the Melbourne University to start a 3 and a half million dollar research program into alternative capping, more sustainable capping on landfills. They're doing this in five states around Australia. We've secured a $735,000 grant from the ARC, the federal government, to do this research and there's several million dollars of money being put in by landfill owners and operators around Australia, so this is to develop a better approach to using natural systems for the final capping of landfills.

MR WEICKHARDT: What typically is used for capping?

MR BATEMAN: Typically it's compacted clay and soil covering, but landfills continually settle as the waste decomposes over time and that causes stresses in the clay and cracks, and it's very difficult to maintain that over a long time. So these alternative cappings use a mixture of natural soils and plants to control the moisture ingress into the waste. The soil acts as a sponge and the plants transpire the moisture out of the soil in a sort of combined relationship. Because the soil is not compacted, it's just in a natural state, if the landfill settles, it just moves with the settlement and it's more sustainable because the plants are selected to grow in that soil. So that's the basic part of the research, to see what plants, what soils, how can this be managed, and the EPAs of all five states are involved in this program, so it's something that will move on to regulator acceptance. That's an example.

Another example is the bioreactor research; for instance, the Woodlawn landfill you just mentioned a minute ago is a new way of approaching landfills, to try and get the waste to stabilise more rapidly so that the risk is removed more rapidly. Universities, for example, Melbourne University, Monash University, the University of New South Wales, University of New England and many other universities have got research teams working on landfill issues, so there's quite a well-developed local research community looking at this and there is a very large international research community looking at landfill issues because it's such a big part of the waste management system, so these things are continuously improving. The new regulations and standards are being adopted all the time.

I'd just like to speak about waste minimisation at landfills. The landfill industry has always been involved in significant waste diversion from separating out bottles and cans that people might bring in but more significantly, timber, green waste, concrete; there's some enormous concrete recycling operations going on now in Australia where there's hundreds of thousands of tonnes of concrete being diverted. That grew out of basically diversion from landfill in the landfill industry.

Investment is now starting in more sophisticated waste diversion infrastructure and there is an operator of a site in Melbourne, the Baxter Group, who have got a combination of technologies where they're separating mixed commercial waste in

one part of their site and they're separating timber in another part of their site. I was told that they diverted 85,000 tonnes last year, in the last 12 months, using those processes. They also do a lot of - - -

MR WEICKHARDT: What would that be as a percentage of their input?

MR BATEMAN: I couldn't say. I don't know what their tonnage input on those sites is.

MR WEICKHARDT: Are they taking a supposedly pre-separated stream of product?

MR BATEMAN: No.

MR WEICKHARDT: Are they taking completely mixed and commingled waste?

MR BATEMAN: In the case of the BaxVis project which is the one that's a culmination of Visy Industries and the Baxter Group, they selected mixed waste loads of commercial waste, so it comes in not sorted, it's just in a large front loader, but they do select them according to what sort of industries they've visited, because they're looking for paper and plastic and a number of commodities, and then they separate the mixed waste. They also separate timber by again diverting loads of construction waste that have got a lot of timber in it into a particular part of the site and then they have a sorting process for the timber.

This is also carried out by other landfill operators, the Twigg Group, Boral, SITA, all get involved and ourselves get involved in recycling on site. There's another company I mentioned in Adelaide called Resourceco. They probably wouldn't like me describing them as a landfill company; they're more a recycling company but they do conduct their operations on a landfill and the residual does go to landfill, but they recover a tremendous proportion of the material that they receive. In Melbourne, there's Alex Fraser, which recovers a tremendous amount of concrete, but they're not a landfiller. So the landfill industry is recovering bulk recyclables and is looking at mixed waste recycling recovery and in fact our company, like many other landfill companies because of - - -

MR WEICKHARDT: Sorry, when you say "your company" what is - - -

MR BATEMAN: I work for Hanson Landfill Services.

MR WEICKHARDT: Okay, thank you.

MR BATEMAN: Our company and other companies are looking to the new waste strategies that states are bringing out, zero waste, all sorts of similar strategies in

other states and looking to how we can introduce new infrastructure to meet the goals of those strategies. The landfill industry supports recycling waste minimisation. We see our role as dealing with the residual waste that's left in the most economic and environmentally responsible way.

This is a picture which shows - in the centre of the picture you see a large area with trucks driving into it and we're actually laying the gravel on the base of the cell. This is a new cell that was constructed a couple of years ago and we're laying the gravel on the base of it for the leachate collection system and that cell is about three and a half hectares. But you can see to the right of that is the previous two cells which were constructed and we're gradually moving across the site, building cell by cell and restoring as we go behind us. That's a picture of several years ago, building what we call cell 3 and this is another picture showing the construction of cell 4, and on the right, you can just see the waste has filled up cell 3. You can see the bank of waste on the right-hand side of the picture.

So I just selected to show that this is the way most landfills operate. They work on a cell-by-cell basis. They fill up the existing cells and construct new cells to start a new cell and they restore the old cells as they go, so it's a progressive operation. That's nearly two years ago; that's just finishing a few months ago. So that cell will be operational in another couple of months. It gradually goes across the site. That particular cell has cost us about 2 and a half million dollars to build, so that's just to show that landfills are large operations with a lot of engineering that goes into them and they're constructed in a logical approach.

MR WEICKHARDT: Whereabouts is this?

MR BATEMAN: This is north of Melbourne. This is 10 kilometres north of Epping.

MR WEICKHARDT: By the looks of it, it's not in a quarry.

MR BATEMAN: It is in a quarry.

MR WEICKHARDT: Is it?

MR BATEMAN: Yes.

MR WEICKHARDT: A fairly shallow one.

MR BATEMAN: It's 20 metres deep; it's just a very big site. At the end of that cell, you can see the quarry wall, just at the left of it. That's 20 metres high.

MR WEICKHARDT: Okay.

MR BATEMAN: It's a bit hard to tell on the scale. I mean, you're looking at it 350 metres away. That takes the waste from the northern part of Melbourne, northern councils of Melbourne.

MR WEICKHARDT: Okay. How many tonnes a year would that take?

MR BATEMAN: About 270,000 at the minute.

MR WEICKHARDT: Okay.

MR BATEMAN: There are similar operations in other parts of Melbourne.

MR WEICKHARDT: You mentioned a gravel layer for leachate.

MR BATEMAN: Yes.

MR WEICKHARDT: Do you recycle leachate inside this - - -

MR BATEMAN: We do. We recirculate the leachate into the cell.

MR WEICKHARDT: Do you collect methane?

MR BATEMAN: We are just about to commission an electricity power station to use the methane.

MR WEICKHARDT: You do collect it at the moment or - - -

MR BATEMAN: We don't collect. We have the wells in and we are going to be collecting in the next few months and putting it into engines. We've only just completed the first cell to final levels, so we weren't able to put the infrastructure in until that was completed because of this progressive nature. But from now on, we'll be expanding the collection system as the cells expand.

This is what I really wanted to impress upon the inquiry, if you like. This is what I call the real cost of landfill, to that best practice I've just discussed. This is data that was collected from a number of different states, so it's generic and our committees sort of agreed that this was about the right sort of figure for the actual cost of doing it. There are other costs on top of this which end up as the charges at the gate, but basically I've just gone through the various components for imaginary landfill of 200,000 tonnes per annum, 3 million tonnes capacity and 20 metres deep. You can see the figures there. The land purchase, $2 a tonne; it can vary a lot, depending on the particular circumstances. Approvals and development, $2 a tonne; cell development, that's building those cells progressively, $6 per - - -

MR WEICKHARDT: Presumably the first four, that's up-front, so for your 3 million tonnes, if I'm doing my arithmetic correctly, you've got $12 million up-front as your expense - - -

MR BATEMAN: That's right.

MR WEICKHARDT: - - - and then progressively you're developing cells and incurring operating costs.

MR BATEMAN: That's right. Usually what happens is you have to use a capital allocation, a capex to establish the site, and that's invested and depreciated like a normal capital investment, but once you get the site going, you build the next cell by accumulating funds using provisions to pay for the next construction. Most large sites work on provisions. They set money aside or they have a process whereby they look at their future costs for capping and lining and they set money aside from the waste that they're collecting, so it just pays for itself basically.

The operation and monitoring, $10 a tonne. That involves the plant, usually operating contractors, many people use - all the monitoring, placing the waste, compacting it, covering it day by day, handling all the vehicles that come in, weighbridge staff, things like that. Then the rehabilitation and capping when the cell reaches final level, the cap goes on and the replanting and rehabilitation, and then aftercare. You look after that; you maintain that capping until the site is considered safe to leave. The total, $25 a tonne, that will meet the requirements of best-practice guidelines that are currently in place in Australia.

On top of that of course, there's not too many sites charging $25 a tonne. There's other costs involved: the administration of finance costs, the profit obviously of the operator, local government, local council levies. Some local councils, for the privilege of operating a landfill in their council area will ask for some sort of contribution, free tipping, some sort of levy. All sorts of different things happen, depending - - -

MR WEICKHARDT: What sort of quantum would that be?

MR BATEMAN: Depends on the site.

MR WEICKHARDT: Give me a range.

MR BATEMAN: A range in what terms, per tonne? That's hard to say.

MR WEICKHARDT: Yes. Are these small, single-digit numbers?

MR BATEMAN: In our own particular circumstance, we allow some free tipping from the local council and it's hard to say what that costs per tonne. They bring in a small proportion of our waste and then only charge the levy on it, the government levy. It might be a few dollars a tonne over the - - -

MR WEICKHARDT: But I got the impression, perhaps incorrectly, that in addition or putting aside state government levies that some local councils are actually asking you to collect on their behalf and remit to them a - - -

MR BATEMAN: No, there's arrangements made during the planning process where they may say, "In order to consider this operation, we want some benefit for our community," and that would be from allowing us to have some free tipping or allowing some residents to have free tipping at the site, so they can have a benefit. It's not like a landfill levy, not the same sort of thing. But there is some cost involved to the operator because they're missing out on income.

State government levies are the landfill levies I'm sure everybody has been talking about, GST. So the charges range between 35 and 65 dollars a tonne at the gate, depending on levies, the market, the volume discounts and the competitive environment. But landfills do operate in a competitive environment; although they're highly regulated and they have certain protections from unregulated competition, if you like, they do still compete in price. In Melbourne, for instance, all the major landfills are competing in their location.

The other thing I wanted to mention was the volatility of landfill costs. The capital outlays are minimised by progressive construction. If our waste quantities drop, say, for instance, because there was a new recycling scheme that might have diverted some of our waste, we could just delay the building of a cell, make it smaller. It's quite flexible. Because we're progressively constructing we can manage of course that way. The liner and capping course are basically fixed by the depth of the cell by the geometry of the cell because if you think about it you have a certain course per square metre for your lining on the bottom and a certain course per square metre for your lining on the top and it's the number of tonnes of waste in between those two that determines the cost. It's not the amount of waste that comes into the site.

MR WEICKHARDT: The sides are not typically lined?

MR BATEMAN: The sides are lined, yes.

MR WEICKHARDT: Okay.

MR BATEMAN: The sides of our landfill are lined, yes, not just the bottom and the top. The operational costs do vary and are dependent on waste input but they

again can be adjusted for changes in input by having more or less machinery, more or less people. New technology can be adopted with marginal change in costs. For instance, the switch from just clay lining, which was the type of lining that was used maybe 10 years ago, just a metre of clay to having the plastic composite liner, that would cost, depending on the site, between 2 and 4 dollars a tonne to introduce that. Now, that's a major change to the construction of the site and yet it has a fairly small effect on the actual cost.

Leachate treatment, if we could no longer recirculate our leachate and we had to discharge it, we estimate it might be 50 cents to a dollar a tonne that may add to the cost to build a treatment plant than to discharge into sewer.

MR WEICKHARDT: So why might you not be able to recirculate leachate?

MR BATEMAN: Because the amount of moisture in the landfill becomes excessive and it starts to bleed out the sides or it becomes unstable or it affects the stability of the waste. There's a limit as to how much you can recirculate the waste. Well, the way that we actually operate our site there's a limit. Other sites may have special - for instance, Woodlawn would have a special process for managing the leachate recirculation. We have a very simplistic approach and we have a limit to the amount that we can actually recirculate. So if we find that it was getting too much we'd have to start treating it.

MR WEICKHARDT: Do you add water?

MR BATEMAN: No, we don't add water. So landfill costs are increasing - well, cost of everything is increasing. Fuel is increasing, the inputs are increasing, labour costs are increasing. There are also some technology cost increases but they're not a large impact. We can make some fairly significant changes for that - a lot of cost increases. In our view, landfills give best value. They provide a safe, permanent disposal of residual waste, they're highly regulated and environmentally responsible and it is important that landfills are regulated because if you're running a site which is trying to meet best practice and you've got somebody down the road who's just chucking it in a hole, it's very hard to maintain that situation. The landfill industry is wanting a level playing field.

We want everybody to be regulated at the same level. We operate in a commercial competitive environment, so there's always competitive pressures on our management of the site. We have to manage our costs most efficiently, otherwise there would be somebody down there who's doing a better job than us and they would be able to attract more waste. It's the optimal solution for most locations. It's not for every location. There are different circumstances, but we believe in the Australian situation. It is the optimal solution for residual waste disposal.

MR WEICKHARDT: Okay. Thank you very much indeed. I have a few questions. You've made your point about landfill and yet I think the general perception of the community about landfill is not the one, the picture you painted. I mean, are there in your view some real legacy issues that are going to cost communities a lot of money to remediate and rectify from landfills that were operated in the past not according to these standards? Do we have any disasters brewing?

MR BATEMAN: That's a good question. I'd have to say to my knowledge - and I've been involved in this industry for a very long time but I don't know every site in Australia. There are some sites which have got issues to do with sound groundwater pollution that needs to be dealt with, but we certainly don't have the same legacy issues as they had in Europe and in America because through good luck or good fortune we've never had the same size of a chemical industry of an industrial sector which is pumping out the same quantities of hazardous waste that were present in Europe and America which got dumped indiscriminately into landfills. We missed that. We were doing the same things but we just didn't have the same sort of level of toxicity in our waste.

So the legacy issues are nowhere near as significant as they have in other countries. It's a mistake to look at what's happening in Europe where they have some really serious problems. They have had groundwater drinking water polluted, communities threatened, serious pollution from landfills, and transfer that to Australia where that hasn't been the case. There's been some pollution from the old landfills and that is being addressed. For instance, in the south-east of Melbourne there's a whole lot of landfills in a sandbelt area. There is evidence of some groundwater pollution from those landfills and there's a process they're going through to identify that, to work out a way to manage that. But it is certainly not threatening anybody's health. It's not causing a significant issue to the ecosystem but it is something that needs to be addressed because you just can't let it go if there is some pollution it must be controlled.

MR WEICKHARDT: I mean, the horror stories that are told are of the fly-by-night operators who fill up these old quarries and then desert. In the cases that you're aware of where there are problems, are the previous operators of those landfills the people who are doing their remediation work or not, or is the community being left to clean up?

MR BATEMAN: No, the examples that I'm thinking of - for instance, there is a lot of work going on at the Tullamarine landfill and that is being handled completely by Cleanaway who is the operator of the site. This example in the south-east of Melbourne, the group of landfill owners are handling that particular process. It's not being dumped on the community.

MR WEICKHARDT: Are they local councils in the main or are they private - - -

MR BATEMAN: No, they're private. There is an example of a local council site which a local council operated and it did have a problem with leachate leaching out of it. That's in Oakleigh. That was managed by the local council because they were the owner and operator of the site. So basically major sites - major landfill sites - that have the potential to cause some significant pollution aren't operated by fly-by-night operators, they're operated by reputable companies who are maybe following the standards of their time, and it's been found out in later years they weren't adequate.

MR WEICKHARDT: There's been a lot of discussion about the externalities associated with landfill and the concept that the state governments might impose levies. In some cases it's been argued to represent a charge for those externalities. Do you have a view as to the size of the externalities on a properly-managed, modern landfill?

MR BATEMAN: It's a very hard thing to put a dollar value on, but I do have a view on the use of levies for addressing the situation and I think the levies should reflect the particular situation that the landfill is in. For instance, if you have a landfill which is operating the best practice, is meeting all its requirements, meeting the regulations, I think a levy should be less on that site than on another site which is maybe operating in the same area but for various historical or whatever reasons it doesn't have the same level of barriers or linings or management and because it was established many years ago it's too late to put a liner in because it's half full of waste. I think the levy on those sites should be higher because that would help address this problem.

If we were to build best practice and there's another site competing with us which doesn't have those expenses it's an unfair situation. The levies can be used to correct that sort of situation. I think that would be a very practical way of using levies to address these externalities. Then naturally enough the competitive environment would be more even and the better quality site would attract more waste. That's one way levies could be used. Putting a dollar value on what the external cost of a landfill is, a lot of people have looked at it in the past and I'm really not an expert in what that would be.

MR WEICKHARDT: One of the factors that is in most of the calculations these days is greenhouse gas emission. In a properly designed landfill of the sort that you're operating in, how much of the methane that's emitted from putrescible waste rotting away can be captured effectively by a modern landfill, do you believe?

MR BATEMAN: Well, there's two answers to that question, Phil. The first one is that when you have the infrastructure in place, how much do you collect at that

moment in time. 80 per cent is a figure that's now becoming accepted. It's a hard thing to measure because you need to know - you know how much you collect but you don't know how much is being emitted unless you put a big cover over the waste. But there is some time delay before you can put the infrastructure in because, as I just explained, on our side it's taken us four or five years before we have a sale completed to final level to allow us to put in the infrastructure. So during that time there will be gas escaping and it depends on a particular configuration of the site what that delay might be.

The other thing is that if you collect a significant proportion of the gas that's being generated and only a residual amount escapes through the capping, depending on the type of capping you can naturally oxidise gas as it passes through the capping. In fact we had a lady touring around Australia called Jean Bogner last year, part of our speaker tour role, and she's done a lot of research into the methane oxidation, where if you have an active cap on a site where you've got plants growing in and lack of microbial population, they will oxidise the methane by bacterial action and remove the methane, turn it into CO2. So if you can reduce the amount of flux through the cap by collecting say 80 per cent of the gas, there's only 20 per cent actually still escapes through the capping, that would be naturally oxidised.

So by combining these two effects you can effectively reduce the methane emissions to very, very small levels. That's one of the things that this alternative capping program is going to be researching, what actually happens in these caps in terms of the gas oxidase.

MR WEICKHARDT: One of the comments that's been made by a number of people to this inquiry is that some landfills are underpricing their services. These allegations are typically made by competitive, I guess, operators but there has been some assertions that because of the competitive nature of the industry, some local councils see landfill as a revenue stream and are anxious to avoid waste being diverted to other treatment facilities and therefore compete on price and under-manage their landfills. Do you have a view on whether this is a real issue?

MR BATEMAN: I'd say that certainly has been the case in the past and there are still some examples of that, but more and more councils are no longer operating major urban city landfills. There's not many left. They did do it in the past as a bit of a cash cow, I must admit, but with privately operated landfills the regulatory environment and the way the business is run is that they don't run it as a cash cow, they look at their environmental responsibilities seriously because they see they're going to be stuck with them if things come back in the future. So there have been cases, and there probably still are cases, but as I'm saying, the landfill industry is developing all the time and council-run major landfills are starting to become a thing of the past. They're generally being run by large companies who take their responsibilities very seriously, knowing they can be liable for any pollution events in

the future.

MR WEICKHARDT: Your association would look across different states which have some very different sizes of levies on landfilling. Have you seen the quantum of those levies significantly affecting the amount of material that goes to landfills in those states?

MR BATEMAN: Well, it's hard to give an answer to that because landfills are only established and arise when there's a demand for airspace. If the demand for airspace reduces, well, the number of landfills will reduce naturally because there isn't a demand for that particular service. So if levies are having an effect then the landfill industry just responds by reducing the number of landfills. So it's hard to say if we see levies having an effect on the amount that comes in the gate. When you stand at the gate of our landfill it's not terribly apparent. As the levy has gone up over the last five years in Melbourne, we haven't seen the amount of waste in our landfill dropping, but that's because a number of other landfills have closed, the market has changed, we've attracted more waste.

There's all sorts of business reasons why we'd be getting more waste, so it's very hard to say. Most landfill operators looking at their own landfill wouldn't say, "The quantities of waste are dropping," but that doesn't mean that overall it is having an effect. In terms of levies per se, the landfill industry really is neutral about the levies because we just pass it on. If we get charged a levy we just pass it straight on to the customers. But we would see the use of the levy funds - we're not neutral about the use of the levy funds, but a levy per se is like GST, it's like tax. We just pass it on.

MR WEICKHARDT: I think I can guess what you'd like to see happen with the levy so we won't go into that. How many councils would you deal with in terms of your own landfill, the one you're responsible for?

MR BATEMAN: We have a group of six councils in the northern region.

MR WEICKHARDT: Do they collectively negotiate with you?

MR BATEMAN: Yes, we have a contract that was I think finally signed in about 1998 to take the waste of a number of the councils. We gave them the option - we didn't lock all the councils in. We said the contract was set up - and this is the way it usually happens. You say, "Okay, we need a certain amount, a minimum amount of waste to open. So if a certain number of councils agree to come to our site then we'll open. The price will then vary according to how many of the rest of the councils join the system and the price would drop per council if more waste was coming from the councils." That's the sort of general structure of the contract. So we needed a minimum amount to open the gates and then the price would vary according to how

many of the councils would come into the contract.

MR WEICKHARDT: Okay. Do you take green waste?

MR BATEMAN: Yes, if it comes in. We don't separate green waste.

MR WEICKHARDT: You don't separate it. What do you use for daily cover?

MR BATEMAN: We work in conjunction with the quarry operation which is happening at the same site. We have a very large quarry on that site and we're just a small part of the site. The quarry operation produces a waste material called scalps. We use that for our daily cover. It's a mixture of clay and fine rock particles.

MR WEICKHARDT: Some people have put it to us that the recycling of organics is creating a mountain of green waste from organics - compost or half rotted compost or contaminated compost - that is causing problems. A lot of this is not being recycled but is just being used as daily cover. Do you have a view on that?

MR BATEMAN: I know that's happening, and in fact in our own particular case our councils that we work with had a problem with their green waste kerbside collection where the operator went out of business, the composter, so they were collecting this material, "What are we going to do with it?" We came to an arrangement where we used it in a capping program. We used it to cap another site, another site that we were closing, and we used it in the cap and it was very successful. It certainly helped the cap to sustain its grass material that's growing on it. It was an arrangement we came into just to help that. So that's the only place we've used it is in capping as a sort of a mulch layer underneath the soil. In terms of green waste recycling, we're quite supportive of it. If other people want to separate green waste and compost it, we've got no problem with that, but it's not something we do on our particular site.

MR WEICKHARDT: Okay. Thank you very much indeed for your submission and also for your presentation. I appreciate it.

MR BATEMAN: Thanks.

MR WEICKHARDT: Thank you. We'll adjourn for a couple of moments.

MR WEICKHARDT: Our next participant in the hearings is the Alex Fraser Group. I'll get you to introduce yourself and your position, please.

MR McKELLAR: Jamie McKellar, managing director of the Alex Fraser Group. I suppose we're mainly talking from the C and D recycling point of view of which we are a significant player here in Australia.

MR WEICKHARDT: Okay, over to you.

MR McKELLAR: Just some of the background bits and pieces as far as the history of Alex Fraser goes, we were established in 1879, originally as a firm of metal merchants, making us 127 years old this year. We are family business. Our grandfather started working for old Alex Fraser back in 1906. My father started with him after the war, and then dad entered the scrap metal business in the early 50s. in the 1960s, he went into the industrial demolition business. The 1970s, he started in the reusable and salvage industry, also had 10 years or so in the plastic industry, starting to reuse nylons and bits and pieces. I started with the business back in the early 70s.

In the 1980s, we started recycling concrete and brick rubble off various demolition sites, trying to create a use for those materials that was becoming a bigger and bigger issue to dispose of and a much greater cost of disposal and trying to, I suppose - basically coming from giving ourselves an advantage over the rest of the industry and also looking at the logic of what we were doing, where concrete as such is made of stone, sand and cement. The reality is when I suppose laymen like myself went and looked at it, nothing has changed. It's still a piece of stone, sand, cement, so crush it and you would turn it back to its initial ingredients. A piece of stone is still a piece of stone, a billion years old or whatever. So the recycling process as such really doesn't change the nature of the product, apart from potentially some contamination issues with plastics or wood or other generally inert materials.

1992 was a major step forward to us in Victoria here where we achieved VicRoads accreditation for our recycled aggregates, basically the first time in Australia, and it's sort of interesting that there's many cities and countries overseas that still haven't actually got those approvals in place. We have built numerous major construction-type things, the Western Ring Road, Geelong Road, the grand prix track, all really high-use areas for recycled concrete. The Western Ring Road had a higher design criteria than the Hume Freeway. It was never envisaged from the quarry industry's point of view that recycled products could be used in these high-value areas. Over the time, we've proved that they absolutely can.

Over the years, we've been lucky enough to pick up a few environmental and business awards, the Gold Banksia award in 1995; in 1998, the Telstra Victorian Government Small Business of the Year; in the year 2000, the Prime Minister's

Australian Business Award for Environmental Leadership. To date, we've processed and sold over 12 million tonnes of recycled products in Australia which, when you put 12 million tonnes in a pile, it's a huge volume of material that actually hasn't gone to landfill. On the other side of that, that's 12 million tonnes of quarry products that hasn't been dug and is still there for future use.

We see the recycling industry as a vital ingredient to any sustainability policy. Most of the stuff coming out of government, anything you read, sustainability is a major catch-cry to where people are heading and where government policy is heading. As such, the establishment of a viable recycling industry in Australia is a major issue for government and should be treated as such. It has a tendency to be overlooked enormously. The recycling industry is quite boutique and small and I suppose fairly young as an overall industry. If you look at the quarry industry or the landfill industry, they have quite long histories. The recycling industry as such has been evolving and it is still evolving but the future of it from our point of view is absolutely clear, but I suppose government regulation and policy doesn't really reflect where the future is heading. In many areas, they're missing the boat as to what it's all about.

As I said, I'm talking mainly from the point of view of C and D recycling which is an area of the recycling business that we really understand. We compete head to head with both the quarry and landfill industries. Very much the quarry industry, as far as selling our finished products go, nobody pays any more money for a recycled product than they will for a virgin product; in fact there's still the stigma in certain areas as to what is actually - the fact it's recycled, you should buy it cheaper. So we compete for every tonne that we sell against the quarry industry. We compete largely against the landfill industry too for attracting the raw materials. The raw concrete or brick rubble or whatever has a potential use inside the landfill industry, helping create the liners or the bases and things so that they can put their clay liners in, particularly in sandbelt areas and things throughout Australia, so they attract a fair amount of those raw materials for that purpose.

For the industry to be viable, it really needs to be located competitively with landfills to attract the raw material and that's a transport issue, site management issue, those types of things. It needs to be located competitively with the quarry industry as far as location to the market for the finished products. The reality is that to produce a tonne of recycled product is actually dearer than to produce a tonne of quarry product and that's generally related to economies of scale and just the sheer size and volumes that you're able to attract, plus the fact that it's our crushing plant that, on quarried rock, would produce 300 tonnes an hour; the same size plant in a recycling situation would probably only produce half of that and that's due to the nature of the product that we're dealing with and all of the steel and bits and pieces that's inherent in that type of product.

Certainly the facilities need to be large enough to achieve some sort of economies of scale to be competitive. There is a whole push from various areas of government to have relatively small facilities around and the reality is they just can't be competitive in producing the quarry product or the equivalent to a quarry product.

MR WEICKHARDT: Is that a sort of deliberate decision or is that a perverse outcome from this licensing that really allows the smaller operators to operate without strict licensing conditions?

MR McKELLAR: Yes, certainly in New South Wales and Queensland there's the ability for small volumes theoretically to run under the radar where 20,000 or 30,000-tonne licences - they don't need to comply with all the stuff that, say, a larger facility does. The reality is that those sights or many of those sights are doing a 100,000, 150,000 tonnes which makes it really difficult to compete with. As a permanent-type site the compliance costs are quite high, whereas with a small, temporary site they are virtually nonexistent.

MR WEICKHARDT: Just going back to your point that there's an encouragement by government, what's the rationale? Do they feel the level of community angst by a small site is less than a big site?

MR McKELLAR: I think it's seen to be good to encourage a heap of competition and that sort of thing, I think that's where it's coming from, that a lot of local councils originally were involved in that type of thing themselves. They've then either on-sold their part of the business or contracted it or whatever. It think it's been seen as potentially a necessary part to getting the industry started and viable. I actually think we've come to a crossroads though that the community expectation is that these facilities will meet a much higher criteria than previously was the case and raising the bar significantly. So I think where we're going as a company is very much trying to anticipate where that will be and setting ourselves up on long-term sites, able to hide ourselves from view, make sure that we can manage dust issues, traffic movements and noise and those types of things which becomes quite expensive to put those things in place or to put them in place properly.

MR WEICKHARDT: So going back to your comment about economies of scale, I assume you're implying the small operators compete because they don't have to comply with a whole lot of these regulations. Is that the point you're trying to make?

MR McKELLAR: That is a significant part of it, yes. I suppose every tonne of material that goes to landfill or to a number of smaller operators, the issue certainly is around - I'm not trying to say there should be one operator, but there should be a level playing field and the reality is in the size cities that we have here in Australia, two or three sites around each city is more than capable of producing or handling the volumes. The last point there is certainly being able to meet community

expectations. We've seen the direct advantages of recycling as a reduction of waste to landfill, a reduction in disposal costs - it varies from city to city as to what the disposal costs of, say, a tonne of concrete is. In Victoria there is no cost; in New South Wales and Queensland there is a minor cost but that's heading down.

MR WEICKHARDT: Sorry, just let me clarify that. You're saying that if C and D waste goes to landfill in New South Wales, the landfill levy is not charged?

MR McKELLAR: No, I would think if it goes to landfill the levy would be charged but if it goes to a recycling site here in Victoria there's no charge compared to if it went to a landfill the levy would be payable.

MR WEICKHARDT: Right.

MR McKELLAR: It effectively means the disposal costs from the developer's point of view or the contractor's point of view is a lot lower which has to be a community advantage, I would have thought. Significant conservation of natural resources, much more efficient utilisation of road transport and infrastructure. With the recycling industry there's a significant part of what we - I suppose, our transport movements that we'll cart, say, concrete or brick rubble into the site and backload finished product. So we're getting close to 70 per cent efficiency out of our transport, compared to, say, a quarry industry as such that really is empty one way which their utilisation is just a bit better than 50 per cent, much more efficient use of resources in the long-term. The recycling industry or the C and D recycling industry actually creates additional employment, even compared to the volumes that are produced in the quarry. It is a much more labour-intensive industry than, as I said before, producing a tonne of recycled product is more expensive. That's probably because the labour content ends up being significantly higher as part of the inspection and testing requirements that are in place.

The major issues that are facing our industry at the moment, there is huge inconsistencies with various acts and regulations in each state and huge differences in requirements between the states. Reference terms seem to be a big issue, certainly with regard to planning, obtaining planning permits and bits and pieces where terms such as "recycling" or "waste" or whatever end up having totally different meanings in different jurisdictions and it is quite frustrating trying to deal with that and I suppose where my understanding of what's being described or what's being asked in a planning policy is more in line, I suppose, with the waste industry or what's actually meant or the intent and you will find that somebody interprets it totally differently and it really is frustrating.

Government procurement specifications, there are many specifications and things around Australia that they still actually prohibit recycled materials. Not for any valid reason, but just because it seemed like a good idea at the time. Even

though, I suppose, you can quite clearly demonstrate that it's suitable material or equivalent to a virgin product, the fact that it's described as recycled is straightaway excluded. Inconsistent licensing requirements between states and even between government departments, conflicts between - say, in Victoria here different planning regulations, EPA. It's quite frustrating trying to work through the different policies and different expectations and the different meanings. Short-term planning from governments seem to be a major issue, sways politically very much.

Australia really has the - I suppose as far as siting any facilities to the "not in my backyard" syndrome and BANANA - build anything nowhere anywhere near anybody. It's just so true that, "Yes, it's a great thing what you're doing, but we just don't want it here. Go and put it back of Bourke somewhere." The reality is with our industry, it doesn't work. It needs to be located close to the urban areas, and that's just the reality of it. If it's going to be viable, you need to have those transport and logistics advantages, and you also need the proximity to the market.

MR WEICKHARDT: Quarries and landfills aren't exactly, you know, things that people celebrate having in their backyard either, but are you suggesting that C and D recycling gets an even worse crack of the whip than those two?

MR McKELLAR: We're just going through a planning issue down in the south-east of Melbourne here, and that's exactly the case, that the - it's really frustrating with the interpretation that with a panel hearing, that you can actually have recycling in conjunction with a quarry or extraction or in conjunction with landfill. You can't have it in - they were recommending you can't have it in conjunction with a transfer station. The particular site we have, the preference is that it would be landfill.

We picked that site because it's actually a shallow hole. It really isn't effective as a quarry. It has a main sewer drain running through it. So seven metres deep is about as deep as it can go. It has the advantage of, from our point of view, putting ourselves seven metres down below existing ground level, putting a significant bund around that, putting in extensive landscaping around the outside. So as we see it, it would be totally hidden from view. The local residents would prefer to have a landfill which I found pretty frustrating. There needs to be a level playing field, as I was talking about before, not different sets of rules.

The cost-effectiveness of products produced by the quarry and C and D recycling industries really are vital to modern economies. I mean, it's all very well to say we don’t want quarries or we don’t want landfills or we don't want recycling, but the reality is modern cities, we use huge volumes of concrete, asphalt just to build all the infrastructure and stuff. It is part of modern society. Well, it goes back since time immemorial. It really is an important part of any planning issues as to how you manage those things. We see the recycling industry as being a vital part of that. It's

not going to replace the quarry industry. It's not going to mean that the landfill industry isn't there. But we see it as developing as a separate entity, not becoming one or - necessarily a part of one or the other, and it is quite a competitive area. But it needs to be looked at for what it is and the role it plays.

There's certainly a need for long-term planning and siting for recycling operations that takes into account all of the issues, and as I said, there's no point saying, "Well, the place for this industry is way on the outskirts somewhere or other." It just won't work. It's just as simple as that. It needs to be at least located as close to the urban areas as both landfills and quarries. You just can't say - there's a tendency to say the quarry industry has to be where the resource is, and that's absolutely. You can't move that somewhere else. But there's no point then saying, "Okay, we'll have a recycling industry that needs to be out miles or kilometres further out of town than the quarry industry. It just won't work.

In brief, there's a need to develop consistent definitions of terms, both on a state basis and national basis. The recycling industry as such is not necessarily the waste industry. We see ourselves as being a totally separate entity. There's certainly a need to identify and review regulations and specifications that prohibit recycled materials, to establish planning protocols that assist the recycling and resource recovery industries, to establish national guidelines or licences for the operation of the recycling and resource recovery industry, and that's it. Thank you.

MR WEICKHARDT: Thank you very much indeed. It's very helpful and clear. A few questions I've got. One is you've referred to the problematic consequence of product being called waste, and you've suggested that if a product has got some resource value, then it shouldn't be called waste because otherwise you get captured by either transport or various other legislation that makes your activities more difficult. How do you suggest that this is managed, because I guess you can see people having concern that the intention originally I guess of having various regulations around waste was to avoid noxious materials being inappropriately handled, and I guess there could be concerns that people would attempt to treat noxious materials as a recycling component of some sort in order to escape some responsibilities that they otherwise would have.

What is the solution do you believe of being able to open the door to the sort of recycling that you're carrying out and not get frustrated by these requirements that are imposed on you by being called waste, and yet not to open the door so far that other problems are caused?

MR McKELLAR: I think the thing you're talking about is very much related around the Queensland issues. Victoria - it's not an issue for us as such, but Queensland it certainly is. I think it can be based or judged around material sold from a recycling facility so that it's not actually - you can't just take stuff and call it a

recyclable material. It could be balanced through I suppose sales of recycled materials versus material that then ends up going to landfill or whatever, and proper licensed - I suppose licensed facilities or facilities that at the end of the day you end up putting significant capital in, and it makes it fairly easy to play by the rules.

The issue becomes with a lot of the smaller sites that by their very nature - say in the Queensland experience - don't actually have any compliance requirements because of the theoretical volume that they're doing - say the 20,000 tonnes whereas in fact they're doing 100,000 tonnes. I think by monitoring the actual sale or some requirement on balancing the sale of material to the incoming volume could sort out the issue that you're talking about.

MR WEICKHARDT: Okay. Thank you. That's an interesting suggestion. This issue about standards frustrating the use of the recovered materials, you say Victoria has for major projects got standards that are performance based that are not causing any problems.

MR McKELLAR: No. That's basically for all projects. We comply with the VicRoads standard specification.

MR WEICKHARDT: Then what about local governments?

MR McKELLAR: It was sort of interesting. When we first - we spent four years working trying to get VicRoads specifications basically, and went round and round in circles a heap of times. At the end of the day, local government or different engineers would say, "Well, we can't use your products because it's not VicRoads approved." Once we finally got the approval, it changed very much to, "Well, just because it's VicRoads approved doesn't mean we have to use it." It was pretty frustrating, but over time it had developed its reputation as being quite a suitable product for use in those areas, and in fact has some inherent advantages over a quarry product for certain applications, and we push those advantages quite hard. It also has some disadvantages for other applications. It's a bit like horses for courses.

Queensland and New South Wales - Queensland there's no application for - like, there's no specification for recycled product in road base. A totally different set of rules there or specifications. The Queensland road base market really is dominated by a material that's basically a decomposed granite, extremely cheap to produce. The reality is we can't produce a recycled road base product as cheaply as you can just go and dig the other stuff out of the ground. So we've developed alternative markets in the way of aggregates for drainage or whatever is the main purpose for those materials.

MR WEICKHARDT: So the specifications really, whilst it's frustration, it's not really an issue you're saying.

MR McKELLAR: New South Wales it is. The operators there are quite frustrated with, as they see it, the discrimination against recycled products. From my point of view though, some of that is that the producers of those materials don't spend enough time on quality control and actually producing consistent enough material. That is changing. There are now a couple of operators there that are focusing on trying to do exactly that.

MR WEICKHARDT: Okay. You mention that producing recycled C and D material, I guess we're thinking of aggregate mainly at the moment, is more expensive than quarrying virgin material, and I'm assuming from that that you're implying the only way you can compete is actually receiving a contribution - I guess receiving the material instead of a quarry and being paid to actually take the material away. Is that the point you're making?

MR McKELLAR: No. In Victoria we don't have a tip fee or disposal income on concrete.

MR WEICKHARDT: You don't?

MR McKELLAR: We don't, but our sites are fairly well located. They're actually closer to the market than the quarrying industry. So we enjoy a cartage advantage over the quarry industry. So that actually - I suppose that subsidises to an extent that difference.

MR WEICKHARDT: So why don't you receive a gate fee in Victoria, because the alternative I guess is that the person takes the material to landfill.

MR McKELLAR: Or to a quarry site or whatever. There's a number of quarries around Victoria that take material, and certainly back in the early days, there was a real push to get the material off the market so that - I suppose stick it into landfill or stick it into a quarry hole and bury it or whatever so that it wasn't out competing. That's changed as years have gone on, but in order to attract the volume of material that we needed to achieve economies of scale, we basically kept reducing the tip fee or disposal fee to achieve greater volumes.

MR WEICKHARDT: In New South Wales where you've got quite a high levy, which is continuing to increase, there would the operators typically get quite an income from the material they receipted?

MR McKELLAR: Historically there's been significant income coming from the waste stream or coming from the raw materials in New South Wales. It's also why they hadn't really gone down the other end or the quality product end of the material because they were able to derive quite an income stream from the raw materials

coming in. It was very much around just processing the material and selling it as a low value product.

MR WEICKHARDT: In what sort of application?

MR McKELLAR: As fill-type materials rather than road base or rather than specification materials, in the nondescript type area, under concrete slabs, building sites, various things that didn't require a specification product.

MR WEICKHARDT: I see. We've talked a lot about cement and bricks and things of that sort. Do you recycle timber?

MR McKELLAR: Not a great deal of it, no. We're heading down that direction and we're starting to attract greater volumes of it. I suppose we're heading down the track of attracting more and more mixed materials in order to get I suppose the harder volumes of concrete and brick and asphalt, whereas 10 years ago we were really just focusing on taking the cleaner materials and trying to encourage people to do the separation at source rather than us doing it. We're now heading down more and more into the sorting, those types of things.

MR WEICKHARDT: We've had a number of submissions to this inquiry by people worrying about the treatment of treated pine and how that should be handled, recycled or disposed of safely. Do you have a view how CCA timber ought to be handled?

MR McKELLAR: We try and avoid it totally. Certainly in any of the areas that we're looking at for developing markets, there's no market for that type of product. It in fact needs to be sorted out of the timber waste stream. So I don't have a solution to what should be done with it other than landfill or whatever.

MR WEICKHARDT: Okay. Just forgive me running through my list of questions here. With the inconsistency of different regulations, procurements state by state, how much do you think that affects your compliance cost as an operator?

MR McKELLAR: Compliance costs probably not enormously. We're heading down the track of trying to establish fully permitted I suppose licence sites that have a long-term focus, and the cost of doing that is astronomical, hasn't really followed through too far into the next stage, which is operating those. It is a significant cost or capital cost that ends up being in there compared to going in on a short-term relatively temporary basis that is still possible in most cities. We can go and put a crushing operation on a demolition site without any permits or whatever, and not basically fly under the radar which is just really frustrating, compared to establishing a site and having huge compliance issues.

MR WEICKHARDT: And in Queensland, these regulations that affect transport, what do they actually require you to do in terms of collecting and moving demolition waste?

MR McKELLAR: With regard to that, the actual detail of the Queensland thing, I'm not a hundred per cent sure. I could easily misinform you as to what those circumstances are. I just know it is a significant issue that my guys up there have been trying to deal with for quite a while as to that classification of waste and the impact it has and the reporting requirements that go with that.

MR WEICKHARDT: We talked before about the levy. There are some states that have explicitly said that they have ramped up the levy to encourage more material to be recycled rather than to go to landfill. Do you see the levy has had that effect?

MR McKELLAR: It's certainly a step in the right direction. I see the levy or the cost of landfilling be far too cheap for whatever reasons. The actual cost of landfilling I think as Sam was talking about before really doesn't reflect the true cost, and that's frustrating. Whether it's through a levy or the true cost of landfill being there, then the recycling industry from where I sit naturally has to become a lot more competitive, and encourage people to do a lot more source separation which is a vital ingredient to helping a viable recycling industry.

MR WEICKHARDT: What degree do you believe you are seeing in Australia now; most of the C and D waste being recycled or are we only halfway there or quarter-way there? Do you have a view of - you know, have we plucked all the low-hanging fruit?

MR McKELLAR: In most cities, we've got the low-hanging fruit. There's no doubt about it. We've got the easy tonnes. The issue is now about getting some of the middle-hanging fruit, and some of the mixed materials and government or local government itself is probably one of the worst offenders for material, concrete and bits and pieces still going into landfill and not being recycled, because it's just easier.

MR WEICKHARDT: Is that because they own the landfill so it didn't cost them?

MR McKELLAR: Certainly wit the councils that do own the landfills, they seem to have some sort of quota that they need to keep up with. So there's a number of instances where that's absolutely the case, and it certainly becomes pretty frustrating. But there's not a lot we can actually do about that at this stage.

MR WEICKHARDT: So do you have a sort of a gut feel as to what percentage of C and D waste is still going to landfill that really should be recycled?

MR McKELLAR: It varies from state to state. In Victoria, there's still probably

30 per cent of the volume that is practical to pull out of the waste stream that can be recycled. In Melbourne we're currently doing just over 1.1 million tonnes per annum. There's another three operators, three sort of major operators here in Melbourne, and probably another five much smaller operators. But I'm not sure of the actual volume that we all do combine, but it becomes a significant amount, but there is still quite a volume that can still be pulled out of the waste stream.

MR WEICKHARDT: We heard somewhere I think in New South Wales that some attempts to recycle C and D waste were being frustrated by contamination. Asbestos was particularly referred to, and people just saying, "Well, it's getting too hard. You get a load along. You can inspect all you like," but you get a very small piece of asbestos cement sheet in, then the whole batch of recycled materials is contaminated and condemned. Is that an issue and a problem you've encountered?

MR McKELLAR: It's always been an issue. Asbestos or contamination is a huge issue. A lot of it is an emotional issue, given the fact that it very much is part of the building environment. We've headed down the track of world's best practice here in Victoria where there is a - to putting testing procedures in place, inspection procedures where every load is actually inspected as it's tipped or after it's tipped, then testing procedures for the final product. The reality is that there will be some bits and pieces of AC sheet in the material, even though you would hope that that wouldn't be the case. But we test - the regulations here in Victoria are .001 per cent.

MR WEICKHARDT: .001?

MR McKELLAR: Yes.

MR WEICKHARDT: In your recycled material?

MR McKELLAR: Yes, that's a maximum of that, whereas, say, you take the EPA regulations, and the EPA regulations are 1 per cent.

MR WEICKHARDT: Which regulations are you referring to that set .001?

MR McKELLAR: WorkSafe.

MR WEICKHARDT: WorkSafe?

MR McKELLAR: Yes.

MR WEICKHARDT: So that's a regulation affecting your workplace as opposed to - or people handling your product.

MR McKELLAR: Yes, I suppose it is a handling issue. We like to think there is -

originally WorkSafe came out and said zero asbestos. In modern society, that is just not an option. It's actually a naturally occurring material.

MR WEICKHARDT: It's in the brake linings of every car that's driving down the street, too.

MR McKELLAR: It is. I suppose not so much these days, but it's - - -

MR WEICKHARDT: Still.

MR McKELLAR: Yes, it is a big issue. It's also a naturally occurring stone that occurs in various rock formations and things. So to say zero is - if zero means, as I interpret zero, to be nothing, then forget it. Don't worry about recycling anything, because it can't happen. As far as trying to achieve some degree of I suppose practicality in the real world, given the fact that if we set up asbestos monitoring down on the corner of the street there, we would get a reading, and that's certainly not zero. But it is a very emotional issue.

I grew up in the asbestos removal industry. We're very aware of it, always have been, and we see it as being realistically one of the single biggest threats to that industry; exactly those types of issues. So we try and be very much on the forefront of trying to make sure that we have the procedures in place where we can demonstrate or prove that the product is not severely or it doesn't contain very much of those types of materials.

MR WEICKHARDT: Are different states taking quite different approaches to this or not?

MR McKELLAR: Yes. It's all totally different approaches, and it depends on who's driving it. But in the ideal world, we'd all be saying we don't want - well, zero asbestos is what I'd like to achieve, no doubt about it.

MR WEICKHARDT: Thank you very much indeed for your time and for your submission, and thank you for having the commission visit your site in Queensland.

MR McKELLAR: No worries. Thank you.

MR WEICKHARDT: Thank you.

MR McKELLAR: We're going to adjourn for about five minutes now.

MR WEICKHARDT: Our next participant is Dr Andrew Monk from Green Planet Environmentals Pty Ltd, and perhaps I'll just get you to introduce yourself by name and position.

DR MONK: Managing director of Green Planet. Do you want me to briefly describe the company?

MR WEICKHARDT: Just for the record, can you say your name, please?

DR MONK: Andrew Monk, and describe the company for you?

MR WEICKHARDT: Go on.

DR MONK: So Green Planet is fairly new on the recycling and waste industry stream as a name. We've only been around for 18 months. We bought over two separate companies that have been involved in green waste recycling over the last decade I guess in the last 12 to 18 months. So we've sort of - that's our involvement in terms of the waste side of things, and hence being interested in coming today.

MR WEICKHARDT: Thank you. You should assume I've read your submission, but you might want to make some comments, and we'll take questions then.

DR MONK: Great. I'm frankly mostly happy to be led by a few questions after I make a few brief points really. So I think I'll give you a fairly easy late morning session. In terms of reading, you've seen this, but should I assume anyone else has seen this?

MR WEICKHARDT: That doesn't matter.

DR MONK: I guess if I go over the general points, then it's probably - I don't want to belabour things, but do you want me to sort of go through - - -

MR WEICKHARDT: No. If you want to emphasise anything particularly, do so. Otherwise, as I say, I have a number of questions.

DR MONK: Okay. One thing to just highlight this is the words "planning issues" got mentioned just before over that cup of tea, and I'd really highlight that as an issue from our perspective as well from the green waste recycling side of things. The issue of planning is critical to ensure that we can be recycling effectively in most appropriate sites. So from that point of view, we'd sort of re-emphasise that point made in the last session. Secondly and related to that, we've watched from the past few years of history of infrastructure, grants and the like where there's, you know, matching dollar for dollar arrangements going on that those programs are definitely beneficial to the industry sector.

I guess as long as they remain both matched by industry, combined with being focused on, you know, effectively planning again for the future, I think there's certainly some things we've looked down the list of the last few years of things that have been granted, going, "Well, that's a little bit interesting or a little bit bizarre or a bit superfluous to the overall productivity," I guess of the green waste sector, or recycling sector generally.

MR WEICKHARDT: Sorry, can I just clarify that. Your concern that you've seen other people receive these grants were things that you think are of questionable value?

DR MONK: To a point. I think one thing we'd reflect on is that we seem to - some of the solutions to this sector are very low-tech solutions, and we're not saying we shouldn't both go for hi-tech solutions and support hi-tech solutions. We're currently investing in some of that anyway, but quite a few of these solutions are lower-tech solutions in that they're in some senses - we've noticed in the last round of Sustainability Victoria grants application process that there are probably some technologies or techniques that are now being sort of overlooked even though they're cheap to invest in in a dollar-for-dollar arrangement and very effective, and arguably possibly far more effective than the multimillion dollar projects that are very much in their infancy, and in some ways we sort of feel that there's probably a techno - you know, fascination with the technological side of things which, as I say, is important. But I think for its own sake, there's a fascination with that rather than for the reasons of being effective for that sector.

I guess one example might be in green waste, without going into too much detail, we build mulching machines that produce a very effective wind road or piled heap of waste that again, as long as it's positioned in the right places in the metropolis and we recognise that it's not a good thing to have them close to urban areas, we don't in our sites that we manage, but if you do that and with a requisite lower level of investment, you can get very effective, efficient recycling of those materials.

On the flip side of that, there's a high emphasis at the moment being placed on higher-tech solutions, whether that's burning that material which, as we say in our submission, definitely offers a longer term future solution for certain waste streams in green waste, but very expensive, early days on that. We would still view that we should be exhausting the more practical cheaper solutions in the short term where again industry is investing in it, but that the assistance is there to match that investment to do sensible, cheap, practical things for now. Does that make sense?

MR WEICKHARDT: Yes. These infrastructure grants you're talking about are ones from Sustainability Victoria, are they?

DR MONK: That's the most evident and obvious one, yes, which I guess relates specifically therefore to Victoria and to that - - -

MR WEICKHARDT: So most of your experience is related to Victoria.

DR MONK: At this point, yes. Whilst we're starting to branch out of this state, we are very much a Victorian-based company at this point still. I should probably just jump back, too, in terms of any questions that might arise, that the positioning of Green Planet, too, is that it's a manufacturer of recycling machines being green waste mulching machines for the industrial sector, not the sort of standard council chippers, but more industrial sized ones. We manage green waste contracts with both councils and the private sector, in both urban areas and now increasingly in forestry which is sort of a big new field we're moving into. Then of course we are also managing both the marketing and selling of the downstream end product of that material.

So it's like the last person who was in here from Alex Fraser's, they're clearly in a classic similar position where they're getting paid to take on the waste, and that's the beauty of these - you know, the great secret. I don't think it's any much of a secret any more, but of these sectors where you're getting paid to take the waste, even if it's only a moderate amount per tonne, but then also as long as you mark carefully, there's a large and growing possible market for the end product.

Our comment just on that, too, is that our sector at the moment is very much in this mindset that that has been exhausted, the marketing of the end product, at a recycled level, being mulches and soils and the like. We take a view very much to the opposite of that, that that market is far from satisfied and saturated, let alone developed properly. That argument goes hand in hand often with saying, "Golly, we've recycled as much as we can through that particular stream. Let's now entertain burning the stuff, burning it both with contaminated other wastes or just simply straight as a green waste stream."

As we say in this submission, we're not in principle against that direction. We sort of think long-term for green waste is a two-pronged approach I guess to this, and again from our own experience, that seems definitely to be the case. We think there's a green waste stream that is clean and uncontaminated that should forever be recycled and reused as organic material, soils, mulches and the like, and there's definitely going to be going forward a more contaminated stream, which includes all sorts of organics from food scraps to you name it, and then you get all sorts of other contamination in there which does definitely make it more difficult to push then into that recycled much and soil stream, and therefore there is an argument to actually send that down an energy stream longer term.

We're sort of trying to not make a contradictory statement there. We're saying

longer term we definitely support the two-pronged approach for that particular part of the sector. But we think for the coming few years, we should be possibly still exhausting the possibilities of recycling first and foremost rather than burning. So I guess that's one of the key points there.

We highlight rather at the start, too, the whole issue of education and marketing. I don't think I really have to probably go into that too much more unless you need me to, but just that again from our experience, if I follow on on that contamination issue, clearly there's an incredible amount of contamination in some otherwise excellent waste streams that really should be just pure resource streams, but because of their contamination, really render them pretty useless basically. So we'd highlight that clearly - - -

MR WEICKHARDT: Can I just interrupt for a moment. Is this contamination from residential sources or from parks, gardens, commercial.

DR MONK: It would be a bit of a mixture, Phillip, but in general domestic and to a smaller extent commercial. Most of our streams, we're probably - I guess it's just a particular thing of our sector with green waste that the commercial side of the industry, the tree-loppers or those sorts of things where the stream is fairly straightforward. It's when councils start saying, "Golly, we should be diverting all this organic material away from landfill," which we actually fundamentally endorse.

We think it's a sensible thing to do that, but with that though often come residents who then think, "Great, I'm getting a bigger bin to throw material in," and the bin is not see-through and it's monitored all that often, and before we know it - and we're experiencing that on one of our sites right now, one particular council has that much problem that they've - in some cases, an extreme example, it's been up to 70 per cent of the material that's put into that recycle bin actually has to be returned back into the waste stream and therefore landfill.

So we're sort of saying clearly - you know, the stories we hear is 10 to 20 per cent is probably recognised as almost inevitable. It's just part of human nature I think that we do that, but 70 per cent is pretty insane.

MR WEICKHARDT: So just general rubbish is being thrown into the green bin?

DR MONK: One of the guys told me at one of our sites a few weeks ago that over the Christmas period, we even had an uncooked turkey. So there's all sorts of interesting things - in a bag though. So the turkey would have been good, but coming with the bag - and there's heaps of bags, it's bottles, it's cans, it's you name it. We haven't had cats and dogs yet, but they'd probably be all right because they're not in a bag. It's all the other plastic rubbish.

MR WEICKHARDT: Do you believe this from your discussions, it relates to councils providing smaller and smaller bins for general rubbish and therefore people are just saying, "I've got this rubbish. So what do I do with it?", or is it complete ignorance?

DR MONK: I guess that's a good question, that one. I think it would probably be a mix. There'd be no doubt about that. There's no doubt I think that people can clearly - from my personal experience anyway, that it's fairly easy, without being too green-oriented to actually manage with the smaller bins that are there right now. I personally don't think - but it's a personal view, I'm not an expert in this domain - that domestic households can cope with that smaller bin.

I think it's more really just a mixture of laziness and lack of education, because I guess if people are being informed more about what we call the virtuous cycle in this submission as well - and we're regularly talking to councils about that, about getting the waste stream back and used in the very locale from which it's produced, and with green waste and organics, there's every ability to do to that and to really good effect, you can then provide very cheap soils and mulches and all sorts of garden products to the residents of that particular council region. If you're getting that into their heads, there's arguably less of a propensity to sort of contaminate their own nest. We would like to think it's more an education and marketing issue, but I say that without being an expert in that.

We pointed out that we don't think data is - it might be a bit controversial to say this, and I hope I'm not contradicting the Waste Management Association from this morning, but we actually don't think - we think the data is good that is collected to date. It's always inevitably going to be a bit difficult with this sector. I think a lot of people sit on their hands or hide some of the things they're doing. So it's never going to be perfect anyway. But the data that we see is enough for us to make calculated business decisions about investment and the like. Having said that, we say certainly a nationalised data system though would be fairly useful for us, and that's speaking from a company that in the coming years plans to sort of nationalise its operations. So that would be that, and - - -

MR WEICKHARDT: So would you be prepared to pay for collection of data?

DR MONK: Yes, to a point, I think definitely. I think in this sector - I mean, one of the other things you probably noticed, albeit it wouldn't then directly affect us. It arguably would be a pecuniary benefit to us to raise significantly the tip levy charges for this particular state in line with what New South Wales is planning over the next few years, and again - if I am contradicting Waste Management Association's position there, that would be a point where we would probably beg to differ. Our view with that is that will encourage more active recycling. We don't see it as a high cost to do a lot of this recycling, but there is a cost no doubt.

So if that was to happen - and while I'm mentioning that, in the light of the question, would we then as a company be happy to pay for that, yes, we would to a point. We think that these levies are a really good way as part of that to actually pay for part of it. But we would be open as a company in that green waste sector to be part of paying for that.

I think they've really covered the key points. I think one other experience we've had in this sector to date has been watching some councils getting stuck in - we recognise legally binding contracts with certain service providers. But if there was - if this sector had a bit more of a - you could almost call it an auditor-general in relation to environmental aspects of the performance of those contracts with council - so we're talking about both the collection and processing and recycling of in our case green waste, and recycled organics generally, we think that would have a better outcome.

Our experience to date has been a mixture of council offices run off their feet and fairly under-resourced in regard to both having effective information about those issues and/or being fairly hamstrung by nothing more than a direct economic imperative from the CEO saying, "Look, this operator is providing it for this price. It's a dollar cheaper per tonne," irrespective of all the other - you know, both external and even internal to the council community in question to get those additional costs, and again through either that levy system or again through some form of our own industry sector levying or payment, we would be happy to support that sort of a system.

MR WEICKHARDT: Sorry, what is it that you want to see supported?

DR MONK: It would be the supporting of investigative officers, I guess you could call it that, or an auditor-general of sorts focused on environmental aspects relating to the environmental performance of particularly council contracts for recycling, and in our case, recycled organics. So I guess going around at least on a yearly basis and checking in on - I guess it's one thing to comply legally to the letter of the dollar amount that the council pays an operator to take material X. We hear many stories and see quite a bit of it up-front where the operators then really, worst case scenario, don't actually recycle that at all and it ends up in landfill in one way or another, and the example I gave you before of the high contamination product is a mixture of a case in point there.

So it's sort of I guess an ability for a calling to account, and at the very least then a transparent discussion can go on between council and that given contractor, wherever they might be around the metropolis, and/or more importantly than that, a calling to the account of the contractor to pick up their game basically from an environmental performance perspective.

MR WEICKHARDT: Surely that's the role of the EPA, isn't it?

DR MONK: That's true, yes. Good point. Therefore I guess our view would be to have the EPA more active in that domain probably.

MR WEICKHARDT: Is that because you perceive there are a lot of operators in this field that do not comply with EPA requirements?

DR MONK: I wouldn't use the words "a lot" because it's such a small sector anyway, but certainly one of the businesses we just bought over basically in the last few months is a classic case in point; less related to maliciousness of the owner but certainly related to a mixture of - he was under-resourced to perform to his commitments under contracts as well as just as a general recycler, and certainly there has been more than one other case we know in this state where on more than one occasion with at least one of those operators, there seems to be a consistent theme of performing less than industry-best practice in relation to recycling of the material that was intended to be recycled.

So that might be anything from a mixture of it, it just ends up either straight in landfill which it definitely technically shouldn't, not least of which because there's a separate levy system related to diverting it from landfill and/or put into such poor waste streams that it's actually doing damage to that industry sector in regard to protecting the quality attributes of the end recycle product in the public's eye, so the public getting fairly average end material as either mulches or soils or whatever it might be, their association with that being recycled and then going, "Right, okay, it's recycled. It's lower quality, that's the reason why it is actually detracting from our sector's ability to grow that market," which we otherwise think is a no-brainer, it's actually very simple to keep the quality good, but there's an easier road out which is just to simply backload it and get it out, but at a lower quality but to the damage of the overall industry sector.

MR WEICKHARDT: That seems to be an area that a lot people have expressed concern about, the activities and the composting sector generally. You're suggesting that there's a lot more opportunity for developing the market in the area provided the quality is maintained. Where are the applications that are not being satisfied at the moment or which could be developed for bigger streams of composts from organics?

DR MONK: I don't have to answer that question, do I, but I will. I mean, I guess in some ways it's fairly evident and not a commercially sensitive issue that soils is probably the biggest one of all. Soils have to be manufactured from something, from somehow and there's still a lot of soils trucked around the countryside from far away places into the metropolis that frankly don't need to be. Of all our business areas for the end products, that's probably the biggest growth area and one we just really don't

see a shortcoming in the immediate term over the next few years. Then there's an ongoing, we think, need for very high quality mulches, so it's anything from - we'll be involved in at least a partial, if not a full coverage of supply of mulches to the EastLink, there's these sort of road-type bypasses; there's ongoing urban development where people need landscaped gardens, again with mulches.

Whilst there's talk about - and we no doubt recognise there's something like an estimated 100,000 tonnes each year for the next few years to come on stream into the green waste sector, we seem to be almost alone in our sector at the moment saying, "We really don't have a problem with that," and if anything, we're inviting additional product in from some of our forestry waste activities to be either commingled with or to be used in some of those different applications. So I guess it's mulch/landscaping products for either professional landscapers or just domestic, roadways and the like and soils as a general coverall.

MR WEICKHARDT: So you said in the case of soil that this material would substitute for material that's being currently trucked in from afar. In the case of mulches, what are you going to substitute your higher quality material for, lower quality material that's sold at the moment?

DR MONK: I understand, yes. No, in terms of that and that's the issue. I guess, the recycled mulches have the challenge of having to compete with otherwise cleaner mulches which we also have ourselves either from forestry arrangements or from - certainly not from recycled origin and because of that the challenge is a reverse one for our sector in terms of making sure that everything - in terms of those contaminants I talked about earlier on, either plastics or whatever else they might be, plastic probably being the biggest one but glass and metals and the like are screened out of the recycled material such that it can legitimately compete at a quality level with sometimes, if not cheaper product certainly a similar priced type of product. Therefore the obvious choice is if you've got the same price but a possibly better quality, obviously people are right to get a choice then of the same - it's making sure that stays on parity there. We believe and know that we can do that and it's important for our sector to do that and then will then achieve more demand for that.

MR WEICKHARDT: Your submission talks about the fact that you want to seem sort of enforcement of quality in this area, an independent assessor I think you refer to "assesses compliance efficiency and effectiveness of existing contracts and best practice is maintained." In terms of the standards for compost, I understand there are various regulations and there are standards associated with compost. Do you think those regulations and the standards are reasonable? Is the problem the lack of the standards or, if you like, where the standards are aimed or is it the people just don't comply with the standards?

DR MONK: It's more the latter. The good thing is for our sector WMAA might

have mentioned that there's a green organics standard that's now evolving still as we speak for our sector, so that's a good story for us. That, as I understand it, has evolved out of the last couple of years of our industry sector's discussions noting that the Australian standards for whether it's composts or soil mixes and the like aren't quite completely appropriate to this sector; they're good, but they're not talking enough about quality on top of that. So this green organics has been an industry-driven standard overlay to the existing one and the talk is - and we would definitely endorse this view which I don't think we put in our submission here - that whether it's government agencies and/or a mandate that the private sector require almost that that standard is adhered to by any operator supplying recycled materials, we would strongly endorse that view. If that was to happen, certainly having a separate inspector as such or additional regulations and the like wouldn't be necessary. In other words, it would be an industry-driven solution.

So that's realistically still about another 12 months away before it comes fully into play. In the next two months it will be - - -

MR WEICKHARDT: Who is developing this standard?

DR MONK: It was initially driven by Compost Victoria which is actually a subset of Waste Management Association of Australia and it's just in the last few months been recognised that that should really go national and Waste Management Association under it's other subsidiary called Compost Australia is actually going to take that on and drive that, so we see that as a really good thing. In some ways we think that standard should be evidence probably a little bit tougher, but we also recognise that it's about an industry process of learning and growing and all that sort of stuff. But we like that outcome that's almost inevitable, but what's not inevitable at this point is both a mandate that both the private sector and/or at least a government agency almost require that. So VicRoads, for instance, the dream would be that they mandate that whatever contractor wins a landscaping contract would actually have to use recycled organics materials rather than actually just any type of mulch material, irrespective of its origin.

MR WEICKHARDT: Why do you want to see that mandated?

DR MONK: If that mandated in concert with compliance to the standard, in other words that a contractor to win the contract - I guess, similar to contractors in the past being required to have a certified quality system in place or a certified OHS system. Our view would be if they have that certification that's giving that independent confirmation that they are complying to a reasonable standard, rather than just any old standard that might be driven by the lowest common denominator financially from a financial perspective, so that's one aspect. From the aspect of why otherwise do it would be to simply assist the market driving what we in our biased way see as a sensible practice of recycling and increasing volume of recycled organics material

rather than see it go to landfill.

MR WEICKHARDT: I guess our guiding principle is what's good for the community overall rather than what's good for a particular narrow sector of the community. So what we're seeking to discover is whether or not there are policy recommendations that are appropriate because they increase overall community welfare and I'm not sure I yet understand whether mandating the use of a particular product is enhancing overall community welfare rather than just enhancing one particular sector of the community.

DR MONK: Yes. It's a reasonable question. I guess we would take it from the biased assumption that of all those trees - I can see straight out that window there, and all the organic material being produced and in all those households, that most of that is still going to landfill, so we're basing it from definitely an assumption point, saying we think more of that benefits the community by diverting that into more usable - actually recycling it, rather than just burying it in the ground and wasting the resource. In doing that, definitely longer term, having said what I said earlier on about the market not yet being saturated and needing more development, it certainly does, but longer term to continue to allow the market to actually pull the demand for that, we think it's a good thing to actually encourage use of recycled materials. So that would be a view we would take generally overall, whether the building materials in this sort of room, carpets, are all recycled or organic, so - - -

MR WEICKHARDT: But if the end product has got a value and there are customers who want that, I think we generally live in a society where we believe - - -

DR MONK: Just let the market drive that.

MR WEICKHARDT: Yes, let the person that's producing the product advocate its properties and justify that they're selling a quality price and value that makes the customer want to buy it, rather than saying you've got to buy it.

DR MONK: Definitely. We don't actually have a problem with that. Maybe I could clarify the view there then which would be the halfway point but the one that would achieve the aim, which is forget the mandating of recycled materials, but we would view that where recycled materials are used, that they then comply with that industry sector standard. That's the critical issue because if it's that, we're saying we know our recycled materials can compete better than with primary origin or virgin origin type of materials.

MR WEICKHARDT: In the green organic standard that's being developed, does this go into the intricacies of methane capture from making compost out of green waste or is it silent on that issue?

DR MONK: In regard to the possibilities of the benefit of tapping that off or the negatives of creating greenhouse gases?

MR WEICKHARDT: There are clearly negatives of making - I mean, recycling green waste sounds to have merit, but if you don't capture the methane, there are certainly externalities of methane release that are undesirable.

DR MONK: Definitely. I must flag that I'm not by any stretch an expert in that domain and we've definitely not still at this point done a greenhouse footprint in relation to our particular techniques. Having said that - and I guess everyone would say this - but the particular machine we build and the particular way in which we mulch creates a very dense type of windrow. It's a very unique, different sort of arrangement which is probably one of the reasons we are - a few companies are still using windrowing as one option in production, even though we will be also looking at in-vessel or enclosed anaerobic systems through time, but we'll be doing that for different types of product for our woodier, classic green waste material, different from other organic materials. My guess would be, given the techniques we use, we think the footprint would be net beneficial in relation to the actual recycling of it, different from simply burying it in a whole. That's said though with absolutely no detailed scientific basis to it but one that I would have a good bet on because of the techniques we use. I guess because we're such a young company still, it's certainly something we haven't yet done but something we definitely want to do through time.

I think we might even recognise that as an issue in that submission, that both the perception of and certain techniques, with poor management or possibly even just simply certain techniques, could easily lead to significant - not just methane but I guess nitrous oxides and large volumes of CO2 anyway as well.

MR WEICKHARDT: You've advocated a national landfill levy. Again, is this in your mind driven because it promotes more recycling or because you think that it has some other attributes? Clearly it has a cost if everyone pays a landfill levy; it increases costs to everyone as a consumer. So what are the reasons why you are advocating this levy?

DR MONK: I guess the general principle is it's a resource use issue; again, it's sort of not a blanket view we would have but that recycling and an efficient use of resources, whatever they might be, whether they're organic resources, concrete, water, that recycling and/or efficiently using them is the best option for the community long term. That's I guess the bias or the assumption that we're making and on that basis, we don't believe it's such a massive increase, the levies we're talking about anyway. Even at a doubling of it, it's not something that there's a massive cost impost from our perspective; that if that was to be done though, that could drive all sorts of other related initiatives in relation to both education and marketing about the understanding of recycling generally and efficient resource use

through to more effective management systems to most efficiently extract those resources and reuse them. So it's definitely a bias or a particular position or perspective we take, saying recycling and efficient use of resources in this type of a country particularly is an important and useful thing to do, therefore let's encourage that, even if we have to use a weird market mechanism called a tax or a levy to do that.

MR WEICKHARDT: Do you see the potential for this to have perverse consequences if individuals say, "I could take my green waste to the tip and I'm charged a big fee"? In a rural environment or a semirural environment, the alternative is to have a big bonfire in their back garden.

DR MONK: Actually I should clarify that. Surprisingly, the actual levy we're talking about is a landfill levy, so where a product is just simply going to be holus-bolus dumped in a hole, different from actually separated out as a stream and recycled, we're not suggesting a levy be charged on the recycled component, and again whether that's concrete or green waste or whatever it might be, we would say let's encourage people which is, as I understand it, the current system, in fact encouraged so much that you're actually encouraging councils and paying the money to divert that material, so that system exists right now, but we're saying, "Let's up the ante even further than that."

MR WEICKHARDT: So separated green waste would incur no fee?

DR MONK: No fee, yes, and in fact would be net beneficial, as it is right now, to councils where I think it's something like $9 a tonne or $8 a tonne that they receive for every tonne diverted from landfill under what used to be EcoRecycle, now Sustainability Victoria scheme. We think that's a good scheme. We think that should be encouraged. We're not saying that part of it should be doubled but the overall levy charge for filling a hole in the ground, and again a hole is easy to dig, I guess, in such a large country - yes, they are - but they're not easy to dig and find close to the metropolises that we have right now, hence longer term, whether we're talking productivity and efficiency there, we're looking at far longer transport times in I guess 20 years' time to truck out to holes in the ground further out from any given metropolis. So our view would be, again coming back to that bias or position we take about recycling, let's prevent that happening. As we've suggested there, what's the optimal point of recycling? Certainly for our sector it's zero - sorry, in other words, zero waste from our stream of green waste and recycled organics - that zero of that actually ends up in landfill is we believe an optimal aim and an achievable aim.

MR WEICKHARDT: In your operations at the moment when you receive contaminated waste, what do you do with the contamination?

DR MONK: We have a few techniques, again fairly simple. There's been a notion in our industry that there's an unmet black-box solution to it that no-one really knows. We've had some success in the last few months now that we've been taking on some of these more contaminated waste streams and our view would be that the processes we're using are definitely effective. Combined with a more effective marketing/education campaign of separate councils, that could be vastly improved for sure. Again, that could be driven - coming back to that increased levy proposal, clearly that's going to incentivise councils or private operators to do more of that to encourage people not to contaminate. So at the moment, what we're doing is screening out that material. Because of the heavy loads of contamination, there's no doubt we lose a little bit of organic material in that, that ends up then getting separated back out and put in skips that end up getting chucked out back to landfill. But in the main - - -

MR WEICKHARDT: On which you pay a levy?

DR MONK: Yes, or in that case, with this particular council I've got in mind, they're actually then paying. So they're actually the ultimate losers, not us, and in fact it's a weird situation. They're paying for the tonnage rate coming in. That's a massive contamination. That's an economic imperative I guess that is going to drive them to change that practice anyway to lower that contamination. So there's ways and means of getting out the contamination, but there's a, you know, log graph I guess that cuts off fairly low in the percentage points of from an economic and environmental point of view to have the most efficient way of extracting it.

MR WEICKHARDT: Okay. Thank you very much indeed for your submission, and thank you for your appearance. We will adjourn for just a few minutes. Thank you.

MR WEICKHARDT: We'll resume our hearings now and our next participant is Alan Marshall from VACC, and I'll just get you to introduce yourself and give your title and position, if you would, please.

MR MARSHALL: Thanks, Phillip. I really appreciate the opportunity to be here today. I'd just like to clarify that I'm actually representing - I'm employed by the VACC - - -

MR WEICKHARDT: Sorry, could you just give your name and position?

MR MARSHALL: Yes, it's Alan Marshall. I'm the executive officer for APRAA which is the Auto Parts Recyclers Association of Australia. I'm employed by the VACC, and the VACC is a state body, and APRAA operates within the national framework of the automotive associations, which is the Motor Trade Association of Australia, MTAA. So I'm here today really representing the national perspective from APRAA's point of view to talk about specifically that sector's interests.

MR WEICKHARDT: Thank you.

MR MARSHALL: I guess my background has been with APRAA for about 10 years, and I'd like to just mention that APRAA has contributed to a number of projects along these lines which may be of similar interest and you may be aware of them. Back in 2002, Environment Australia as it was then known had a project and produced a discussion paper on the impacts of ELVs, end-of-life vehicles, on the environment, and APRAA as a national association contributed very significantly to that report.

More recently, APRAA made a submission to the Environment and Heritage Council inquiry on product stewardship, and also at a state level, APRAA made a submission and attended an inquiry of the New South Wales government on the extended producer responsibility inquiry.

MR WEICKHARDT: Okay. Thank you.

MR MARSHALL: My purpose today is really to highlight key points from the MTAA submission and to answer any questions of course within my expertise. I'd specifically like to sort of kick off with I guess two key points. One is the - to emphasise the auto parts recycler's - often known as dismantlers - important role in (a) handling the majority of the 500,000 end-of-life vehicles which have been retired from the roads in Australia each year, and secondly the important role that our sector plays in maximising the reuse of automotive recycle parts in the legitimate process, repair service, mechanical repair sectors of the industry.

In terms of the submission, there's probably a number of key points that I'd like

to highlight, initially three points. Firstly we would like to highlight the need to recognise the existing industry's good work. There is an existing industry made up of small to medium businesses, and that existing industry is managing the bulk of those 500,000 end-of-life vehicles throughout Australia currently, and we're doing that without any framework, without any support from government or the community. Keeping in mind of course that the auto parts recyclers are not the manufacturers of those products. We're just an important part in the chain.

So perhaps like a number of industries, the end users or where the products end up, we don't obviously want to feel responsible for the cost the community I guess or the manufacturers might seem to be accountable for. So that's I guess a key point in terms of we're not the manufacturers of the product, but we're handling the bulk of those end-of-life products for the community and for the manufacturers. The reuse I guess of those parts is an important aspect in terms of what we're doing.

The second thing I'd like to highlight is the special nature of the industry. End-of-life vehicles are not quite like aluminium cans or mobile phone batteries and things like that. The cars do have some economic value, whether it be in the parts reuse or whether it be the materials such as the metals. So we would be keen to sort of see those points recognised rather than overlooked, and importantly I guess the environmental issues associated with the process of these vehicles. For example, there are no laws within Australia requiring the vehicles to be depolluted. However, it is best practice within the industry to do that. But there's no laws requiring that, and so I guess these sort of things need to be factored in, because there are a number of environmental issues in the processing of these end-of-life vehicles that the current industry is managing and addressing quite successfully.

The third point I just would mention is the importance of a national end-of-life vehicle framework to support the existing industry. So these activities are ongoing, but there's no framework to encourage that to happen. It's just I guess the small business sector traditionally using the opportunities that they have before them to make it all work. I was wondering if there was any need for additional information, and that may or may not be required. But certainly I brought along a kit of information that I'll leave with you largely about APRAA and some of the things we've been doing on the environmental recycling front.

Secondly whether or not it would be of any interest to visit a recycling facility which could easily be arranged, and you'd be suitably impressed. The best facilities in the industry are really impressive and probably aren't even recognised as an auto parts recycling facility if you're driving past, whereas perhaps the older style wrecker in the country with acres of damaged vehicles is perhaps commonly noted, but that's not typical I guess of the modern sophisticated business operation.

MR WEICKHARDT: That could certainly be of interest. So if you suggest to us

how we might do that, we'll see if we can factor that in to our program at some stage.

MR MARSHALL: That would be great, and it would be easy to do of course.

MR WEICKHARDT: There's a facility conveniently located in Melbourne, is there?

MR MARSHALL: Yes. Obviously the marketplace in Melbourne and places like Sydney is very large, and a lot of the operators are sort of in the metro area, not inner city, but 10 or 15 K's out of the city, there is a number of quality operations throughout any of the capitals in Australia, and of course regional, but it would be quite simple to identify one or more sites to visit if that was of interest. APRAA has a web site of course, too. So there's extra information which is available on the APRAA web site, and I guess I was wondering whether or not there might be some interest to just understand the end-of-life vehicle process. It isn't sort of rocket science, but it may not be known to many people actually what does happen to vehicles. Would it be worthwhile giving a five-minute - - -

MR WEICKHARDT: At most five minutes, yes.

MR MARSHALL: I can cut it down if you like, too. Most of the vehicles are sourced through auction by the recyclers, damaged vehicle auctions. All the vehicles are unwanted vehicles sourced from the public. Once the vehicles are bought, on premises they would be depolluted of the fluids, gases and hazards, and then the dismantling would start taking place identifying the key parts, the saleable parts that are undamaged that can be used and sold to the trade or the public. Those parts would be, once dismantled, cleaned, tested, put on the computer for inventory in warehouses and then available for sale and so it's fairly straightforward in that regard. What remains from the dismantled vehicles is the shell, including parts which are not saleable and those shells are sold to the metal recyclers and those vehicles are compacted and then shredded and the valuable metals are salvaged by the metal recyclers and the remaining is an automotive shredder residue, often referred to as ASR or shredder flock, and that goes to landfill. So that's pretty much the process of what happens to an end of life vehicle.

Perhaps I could refer to the key recommendations in the Motor Trade Associations of Australia's submission. There were three recommendations, the first one is that for the Australian government and the auto industries to work together to develop a policy on end-of-life vehicles. Secondly, for the government to encourage and support where appropriate the use of recycled auto parts and thirdly, for government policy not to discourage activities which prolong the life of auto parts such as parts reconditioning, tyre retreading et cetera. So fairly simply just three clear recommendations. In terms of some of the information in the report - - -

MR WEICKHARDT: Sorry, you're saying the government should be encouraging the use of recyclable materials. What do you have in mind? Is there anything at the moment that the government does that discourages the use of recycled materials in this field?

MR MARSHALL: I guess sometimes there are inadvertent actions which can discourage the use of second-hand parts and I can't think of anything specific right now but I suppose now we're moving forward we believe the general community is looking for positive reinforcements for recycling issues and the environmental concerns. So our position would be that these concerns be extended to include specifically the large volume of vehicles and the opportunities for salvaging of the economic parts out of those things.

MR WEICKHARDT: My perception would have been that that was an industry that had been alive and well for quite a few years and was operating - there might be safety and environmental and other things that need regulating but I would have thought there's a pretty well established group of consumers that go looking for recycled parts because it's in their interests to do that.

MR MARSHALL: Fair point, unfortunately the understanding of that by the community is fairly small. The market share of the recycled parts industry of the total parts market might be in the vicinity of 5 per cent, so it's very small and in fact there are often barriers to more effective use of recycle parts because of perhaps misunderstandings in the community or a lack of awareness. For example, it can be a mindset issue. If I was to perhaps ring up somebody and ask them would they be happy for their damaged vehicle to have second-parts used, they might feel that was a negative because they don't understand the importance and the lower cost associated with something like that. Through that lack of understanding they could see that as being a genuine negative. Whereas if it could be communicated in a positive way that in fact your car is five years old, you don't need a new door, once that door has been painted and professionally fitted and painted with the undercoats and surface paints, things like that, you wouldn't be able to distinguish it. In fact it would be a five-year-old door on a five-year-old car, quite appropriate and the cost savings associated with that are quite significant in some regards.

If the consumer was given, say, an opportunity to understand that they were assisting the environmental greenness of things plus there was maybe even a discount applying in an insurance arrangement, then they might be quite happy to go along with that. But we've seen some people in the industry or the community identify the use of second-hand parts as being a negative and we think that's just a complete misunderstanding of the reality. Does that help?

MR WEICKHARDT: Yes, it helps, albeit I suspect that in a free enterprise society the government properly should say, "Go to it, it sounds like you've got a number of

commendable advantages that you could educate the public with and incentivise them with, lower prices through insurance companies, lower prices to consumers," I think you should pretty quickly say, "Well, maybe a five-year-old car, I can do with a second-hand door."

MR MARSHALL: That's fair enough too and that's really what our industry is looking for is the opportunity for consumer choice and that's really what we would look for in terms of the parts usage. There are some barriers to that through things like the insurance companies, whether the insurance companies are prepared to recognise that and in a lot of cases they are, of course, because of the obvious reasons in terms of environmentally and also cost savings. But that does require them to identify that in their strategic approach and to be prepared to communicate with the policyholders that that is what they're doing rather than do it without explanation and we're seeing that as appropriate. We're not suggesting that a new car has accident tomorrow would be fitted with a five-year-old door. We wouldn't see that necessarily as being appropriate.

MR WEICKHARDT: It's less readily saleable.

MR MARSHALL: That's right. So we're really talking about the use of recycled parts where appropriate and fit the purpose. But that's an example of a barrier that can arise. There are other industry-related barriers too, but no need to go into that sort of detail now. I guess the prime issue of wanting government support is more along the lines of the ELV waste issues because the cost of actually dealing with the waste issues can in fact be borne by the recyclers and our view would be that it's not appropriate for the costs for people like the recyclers having to bear those costs and where there's an economic value that's fine, those costs can be offset. But in some cases the economic value doesn't exist or isn't sufficient enough to cover the costs and whether it be the auto parts recyclers or the metal recyclers, we would argue that's not fair and either the manufacturer or the consumers, in some sort of coordinated framework, need to work with industry to ensure an effective system does occur.

MR WEICKHARDT: Can you generalise as to the circumstances under which this sort of problem arises where the next benefits to the recycler of going through this whole process don't produce a positive return and in those circumstances where they arise, what does happen to the vehicle.

MR MARSHALL: Yes, I guess there are a number of levels that you can look at it. You can look at the whole vehicle process or even the substages within and it might be helpful to look at an example of a stage within it. As I mentioned earlier, best practice with the industry is to depollute the vehicle and make sure that the fluids and gases and things are all depolluted appropriately. But there's a labour cost to producing those efforts and you could argue that, say, taking out the fluids in a

vehicle can be on-sold to a recycler, a specific oil recycler or something like that, but the fees that would be obtained from something like that wouldn't cover the cost and, for example, with the gases similarly.

So in some cases they may to be getting anything, they may just be happy for the wast to be collected. But the good operators are doing that because that's the appropriate thing to do. Of course, some in the industry may not be doing that which is obviously the inappropriate thing to do. So we're looking at a total picture of not only the people who are doing the right thing, but also the people who are outside the good guys, shall we say, who wouldn't be doing it and there's no requirement for them to do it but that's example.

At the whole end for example, it's possible that at the end of the day, a vehicle could be purchased with the intent of making some economic profit out of it, and that might not occur. They might be forced in a situation at auction to pay X amount of dollars for a vehicle, hoping that they can sell certain parts and hoping that they can recoup a certain amount of money from the remaining metal, and at the end of the day, that may or may not happen. So it's not uncommon I guess for an end-of-life vehicle to have no economic net value, and so I guess what does happen to something like that.

MR WEICKHARDT: Are there stockpiles of vehicles that are not being touched for that sort of reason or in particular locations, is this causing a problem?

MR MARSHALL: It is in the community, not within the business trade because it just isn't good business sense to keep vehicles lying around on your premises indefinitely. So at some point in time, you need to (a) tidy up or get them removed, because there is some residual money involved. So while you may not get a full value out of what you're doing per car, there may be some incentive to nonetheless tidy them up. But in the community of course, if it's left to an individual, if there's no value or no perceived value in an end-of-life vehicle, there's a high chance that that vehicle will be dumped in the street, dumped in the bush or something like that. So I guess when I mentioned earlier - - -

MR WEICKHARDT: But is the problem there's no perceived value or is there sometimes no value?

MR MARSHALL: It's both but, yes, you're right. In some cases, there's no effective value. For example, and end-of-life vehicle could be worth $50, but it's going to cost the owner $50 for the business to come and collect the vehicle. So that's part of a problem that there are transport costs and things like that involved. So therefore I guess the danger is that some vehicles are not being captured because of these barriers or lack of incentives. Our industry handles the bulk of these 500,000 end-of-life vehicles which are coming off the roads each year. In fact, those figures

which are based on the Australian Bureau of Stats a few years ago were expected to increase. So in fact the numbers could be as high as 750,000 within the next year or two.

We would probably think that maybe up to 10, 20 per cent of the end-of-life vehicles are not being processed through our sector appropriately. So that could mean a hundred thousand vehicles are not being processed environmentally appropriately, no access to the parts reuse, and those vehicles are being mismanaged throughout the community in various ways, through inactivity or poor understanding of what could be appropriate.

MR WEICKHARDT: I was left a bit unsure from your submission whether you are sitting on the fence about adopting one of these European schemes or whether you are recommending that this process of sort of adding a levy to the new car which I guess - I think you suggested might give some sort of certificate that's passed eventually to the last person in the line, that then pays for the correct sort of disassembly and recycling of the vehicle. Is this your recommendation?

MR MARSHALL: It's a fair question in terms of sitting on the fence. We're not so much sitting on the fence, but I'm not here to present a solution. We feel it's very appropriate that a solution be worked out with government with all stakeholders including the manufacturers as well as the recyclers. So I think it would be naive of us to come along today to sort of say this is the way we think it would work. However, as you've touched on, there are a number of options and alternatives which are being considered and actually being adopted throughout the world.

In both the VACC submission and the MTAA submission, mention is made fairly clearly about the European Union situation where they have introduced ELV mandated laws, and we really would today highlight those as being examples that should be noted. But there are shortfalls to some of those systems which are happening overseas, and early days in terms of to assess their effectiveness. But we would certainly say that our preferred approach within Australia would be a more self-regulatory, co-regulatory scheme with minimal mandated regulations where required to address things like free riders or importers and things like that.

So we wouldn't be suggesting that the system as being developed in, say, Europe or in Japan would be suitable in Australia. We would prefer a much more industry solution.

MR WEICKHARDT: What are the main shortfalls that you see in the EU system?

MR MARSHALL: Initially in the European situation, they're really identifying it as a producer responsibility. So therefore ultimately the principles behind the scheme are all about the producers, the manufacturers taking the ultimate

responsibility, and we don't feel that that in itself is a sustainable effective solution. Sure we would like to sort of see the manufacturers playing a key role. But we want to see our industry, if you like, supported for the work they're doing and encouraged to continue it with a little bit of a framework and recognition.

Secondly the implementation is another issue as opposed to the principles and the objectives, and the European situation has enormous challenges in terms of implementation, largely I guess because of the fact that they've got so many different countries, and each of the separate countries are having to address the issues individually and introduce individual country laws. So we sort of feel that it's not a perfect sort of blueprint for the way that we would want to do it. But nonetheless it's an interesting awareness, isn't it, to note that a lot of interest throughout the world is being taken on end-of-life vehicle laws, whether it be Europe, Japan - I even read this week that China is planning to introduce ELV regulations by year 2010. It's certainly got a lot of attention, hasn't it, throughout the world.

MR WEICKHARDT: I guess one shouldn't believe a lot of what you read in the newspaper, but over the last couple of years, I seem to remember various stories about people literally driving out seeking old cars because scrap metal values had gone up so much.

MR MARSHALL: Yes.

MR WEICKHARDT: If that's true, I would conclude that maybe with scrap metal values high, we've got less of a problem with vehicles that are inappropriately dealt with, but does it follow that there are times in the cycle when scrap metal values are low that cars do languish around and are just abandoned and dumped?

MR MARSHALL: Spot on. That would be our concern, that we need something which is going to work ongoing rather than just the market cycles are favouring the metal prices. Your example or point is quite an issue for our industry. We are very concerned over the last couple of years with the impact that, say, the higher metal prices worldwide have meant that small operators perhaps - definitely unlicensed, who may have access to a car, a tow truck or a trailer - have been able to opportunistically get involved in the process, and that is of concern on two fronts: (1) often these cases are unlicensed operators. So the legitimate operators who are paying the overheads to have a licence in their state or a local council permit are paying these overheads to be the good guys and do the right thing, and these unlicensed operators are unable to come in and impact on their businesses.

Secondly and maybe more importantly from this inquiry point of view, those vehicles are not being taken to auto parts recyclers in most cases. They're being taken directly to the metal recyclers to be handed over for the current going rate, and therefore those vehicles are not being processed through our good members. So

there's no reuse of the parts. Secondly there's no depollution of the fluids and gases and hazards appropriately. We are very concerned about that sort of growth and lack of support for the legitimate industry when those times occur.

MR WEICKHARDT: Okay.

MR MARSHALL: If I could, I wouldn't mind mentioning that APRAA, as a national association, has for some years been operating a voluntary accreditation scheme of which we make mention in the submission and it's a broad scheme which covers environmental issues as well as licensing, as well as business premises, as well as customer service and things like that too, so I guess it's further evidence, if you like, of the good work that the industry is doing out thee and the fact that we support the idea of self-regulation rather than widespread government regulation and over-burdening of small business. So we're certainly not here today to unsettle the good operations that are taking place within our industry.

MR WEICKHARDT: Good.

MR MARSHALL: One of the things that perhaps I could comment on as well is the ease of access to our industry. As we touched on a few minutes ago in that example that you raised, there's ease of access to our industry. There aren't high standards or national licensing that people have to achieve to get involved. You can get involved quite readily and therefore I guess our industry is looking for ways of increasing the standards and licensing and things like that. In some states, there is a licence but that's not consistent across Australia, and in some states there's de facto licences such as a second-hand dealer's licence. So I guess we would like to see support for raising the bar of entry to the industry so that the people are accountable and are in fact achieving the environmental and other sort of standards that we believe our industry should be delivering for the community.

MR WEICKHARDT: Are you just about done?

MR MARSHALL: I guess we're both just been checking our notes.

MR WEICKHARDT: Yes. I had a couple of other questions if you've finished your presentation. One was you suggested there should be some further research and maybe even some sort of standards in terms of vehicle construction that make recycling either more easier or more practical or facilitate recycling. I guess my question is, given the automotive industry is very much a global industry and even some of the cars that are supposedly Australian are definitely designed for export markets as well as for the Australian market, is Australia developing standards in this area that are fertile and value adding opportunity or really do we have to follow the pressure that's being applied to European and Japanese car manufacturers and accept that they're driving in the direction that we want to go?

MR MARSHALL: I would think that the manufacturers would be able to comment more accurately on really what's going on from their point of view but our perception is that the manufacturers, as you say, are global manufacturers and a lot of good work is being done overseas, in Europe and Japan, for example, looking at the holistic, the whole product life approach, and therefore they are looking at things like encouraging increased use of recycled parts. They are looking at encouraging increased materials, recycling for reuse within the product. They're looking at design for disassembly issues. They're looking at design for recycling issues. Those sort of things are perhaps a frustration to us that we don't see happening in Australia, yet they're the same organisations, although local arms, and I would think that's probably because there's no priority for it to take place within Australia. They're issues that we would certainly raise and have flagged, but once again, the perception of our industry would be that the priority with the local manufacturers is on other environmental issues such as hybrid technology and emissions and things like that, all valid, but they haven't embraced the other side of things, such as reuse and these design for recycling-type issues, which are in fact happening overseas, in Japan, for example.

MR WEICKHARDT: I can understand there might be a variation among the manufacturers but I guess if the Japanese are making a modification and the Camry is a world car, then the Camry that's made here will probably comply with those changes. Some of the cars that are more locally focused and not exported might suffer the problems you're talking about.

MR MARSHALL: Yes. I think it does vary too. I think Toyota is a clear world leader in some of these issues and I think they are probably introducing more requirements on the local operation to sort of fit within the global plan. But from our perspective, we've not seen really any evidence from the other manufacturers to comply with their global corporate-type issues, but it may be that we're just not close enough to see those things either.

MR WEICKHARDT: You talked a couple of times about shredder flock and concerns about shredder flock. Again, I would have thought that that's probably been studied internationally fairly comprehensively. Is there something peculiar about Australian shredder flock?

MR MARSHALL: I wouldn't think so. I'm no expert of course in the metal recycling operations and those things, so you'd get a more accurate comment from those operators, but we are aware that the shredder flock is getting increased attention overseas and I guess even locally. But overseas, I'm aware that they have introduced specific activities or plans or laws in relation to that, whereas not so much so over here, although I'm aware that those sort of things have been, if you like, identified by environmental groups or government as issues to perhaps progress

down the track.

MR WEICKHARDT: I see. Is the concern the ultimate disposal and risk to the environment of the shredder flock once it's disposed or is the concern a workplace concern for those people who are operating in some of these shredding facilities?

MR MARSHALL: I think it's the former. I think it's just a general concern of waste going to landfill. In countries like America and Australia, I suppose we've got the advantage of wider geographical spaces and perhaps the imperative of reducing landfill is not quite as sensitive as, say, Europe and Japan, but I would think from an environmental perspective, those sort of issues are on the radar locally though. I guess from our point of view it makes sense in terms of wanting to reduce the hazards that might be going to landfill and also wanting to reduce the volume. I hope that helps.

MR WEICKHARDT: Thank you. One last question from me: on page 4 of the submission, there's a comment in your second bullet point in that submission. The last sentence is:

> This is significant, given the cost of manufacturing waste on a state level, in Victoria at least, is estimated to be five to 10 times higher than waste disposal costs.

I couldn't for the life of me really understand that. It's reference to an eco-recycle comment so maybe I should go back and look at the reference.

MR MARSHALL: Yes, I must admit I can't clarify that for you at this stage. That report, as you may have noticed, had a number of general comments about waste and waste issues which were really not my area of expertise in terms of the auto parts recycling but I'd be more than happy to refer that back.

MR WEICKHARDT: Some of my colleagues may understand it and help me with it. Okay. Thank you very much indeed for appearing before the hearings. I should say before we adjourn this hearing here in Melbourne that that concludes today's scheduled proceedings. For the record, is there anyone else who wants to appear today before the commission. Okay. So I'll adjourn these proceedings and the hearings will resume in Adelaide tomorrow morning. Thank you very much.

AT 12.51 PM THE INQUIRY WAS ADJOURNED UNTIL
FRIDAY, 24 FEBRUARY 2006

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