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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 ADELAIDE ON FRIDAY, 24 FEBRUARY 2006, AT 9.09 AM

Continued from 23/2/06 in Melbourne

MR WEICKHARDT: Good morning, ladies and gentlemen. Welcome to the public hearings for the Productivity Commission inquiry into waste generation and resource efficiency. My name is Philip Weickhardt and I'm the presiding commissioner on 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, industrial, and construction and demolition wastes.

We have already talked to a range of organisations and individuals with an interest in the issues around this inquiry. Submissions have been coming into the inquiry following the release of an issues paper in December 2005. We're grateful for the many organisations and individuals who have already participated in this inquiry and those who are doing so at this hearing. 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 Adelaide, other hearings will also be held in the next few weeks in Brisbane, Sydney, Perth and Melbourne, and we have already had hearings in Canberra and Melbourne. We will then be working towards completing a draft report for government by the end of May, having considered all the evidence presented at the hearings and in submissions, as well as other relevant information.

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 day's proceedings I will provide an opportunity for anyone who wishes 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 other oral presentations.

The transcript will be made available to participants and will be available from the commission's web site following the hearings. Copies may be also purchased using an order form available from the staff here today. Submissions are also available from our web site.

To comply with the requirements in the Commonwealth occupational health and safety legislation I should also draw your attention to the fire exits and evacuation procedures. I understand that if you go out this door and turn to the left, there are some stairs down to the street below.

I would now like to welcome Mr Michael Haywood from Resourceco as the

first participant in this hearing. Perhaps you'd like to say your name and give your position, please, and that of your colleague, and we will start. Thank you.

MR HAYWOOD: Michael Haywood. I'm the general manager of Resourceco. I am also the South Australian president of the Waste Management Association and a current board member of Zero Waste SA. With me I have my colleague Mark Balnaves, who is an adviser to Resourceco.

MR WEICKHARDT: Thank you. Over to you.

MR HAYWOOD: Having put a paper in, I appreciate the opportunity to come and share a few thoughts that we have over and above what's in the paper and around the paper. As a resource recovery business, we rely on large volumes of recyclables coming through our business and we this morning would like to highlight that there is a real concern across our industry, I guess not just in South Australia but outside of South Australia, about the uniformity of the states in principles of waste management and the lack thereof. Each state seems to be doing its own thing which, as a business that would like to start to expand, is quite difficult for us. Levies in states vary from more than $23 per tonne and rising in New South Wales, to no levy at all in Queensland.

We are promoting, with the South Australian government, increases in levies to accommodate more recyclables coming through our industries rather than going through landfills and, whilst there's some positive feedback from governments, I'm sure that there is also the aspect of making our government slightly less viable to operate in than some of the states that don't have levies, so I think it's important that at a federal level we start to get some uniformity, and maybe we need to establish some federal guidelines for waste reduction across each of the states.

In my paper I suggested that benchmarks should be set, and I think that they could be done at a local government level and then at a state level and then at a federal level. The reason I think that is - having a fair knowledge of the waste streams - each of the states is quite different in the types of industries they have and therefore the various different waste streams that they have, and also the types of land we operate on makes it slightly more difficult or interesting for each of the different states to accommodate resource recovery and recycling. So I think we'd like to see a benchmark system set up so that then each of the states has to get involved.

Anecdotal evidence from the UK suggests that the UK have gone down the track of putting in a huge waste diversion set of measures, which include various different taxes and levies, and bans from landfill, and the main reason they did that was because they knew that they were never going to meet the EEC benchmarks that

were set. We don't have an EEC in this country but we do have a federal government, and I think that is a good example of how more federal benchmarks could assist our industry to grow and expand.

I've got a note in there that I think CDL, container deposit legislation, should be expanded across each of the states. South Australia stands alone in container deposit legislation. In the industry we're in we do a fair bit of travelling and we probably take note of those things more so than the average general public, and when I go to other states and I see the amount of containers scattered around some of the other states compared with South Australia and they tell me that CDL doesn't work, I just laugh, because it clearly is an excellent system. It works very well, it employs a lot of people, and I think it would be a valuable federal asset to our community and to our country. That's just an aside.

As I've said, New South Wales is leading from the front with a program of increasing levies to around $50 per tonne within five years so as to ensure reduction targets are met by 2014. I've gone on to say all they need now is CDL, container deposit legislation. That's the 5-cent refund on containers and bottles.

I've talked about benchmarks. States will argue, as I said, that they're eroding their competitive advantage if they apply an expensive but sustainable waste option compared with other states that have cheap landfill. In Queensland, for example, you can dispose of waste in tea-tree landfill for about $14 a tonne, I understand. If you've got a $50 levy in New South Wales and somebody is wanting to set up in Australia and they can set up in New South Wales with a $50 levy and they're going to produce 10,000 tonnes a year of waste, they've got a half a million dollar disposal bill before they start paying for anything else, compared with Queensland, so therefore you're going to have arguments across states. Again, the federal government setting benchmarks and encouraging each of the states to adopt levies is, I think, vitally important for resource recovery to move on.

Levies are a blunt instrument but they're efficient and they capture all disposal and should be charged at the gates. There's no way around it. One of the things that annoys me in this state is that if you take a brick and put it into a landfill, it's waste and you pay a $10 levy plus whatever the landfill cost is. If you break that same brick in half, you get it in there for free because it's now no longer a waste; it's now less than 150 mil minus so now it's a clean fill. I think that's a joke. I think if you take any product into a landfill, it should at least take on the levy.

We've had substantial gains in most states in waste diversion, but I think the waste that we've captured so far - I call it low-hanging fruit. It's been easier to capture: high in volume, high in weight, easy to source and to separate. We look at things like cardboard and paper, scrap metal, concrete crushing, and kerbside

recyclables. They've been very easy to get and we've made substantial gains across most of the states, particularly in South Australia, but I think the forgotten waste stream in all of this is the commercial industrial and the mixed recycling components of construction and demolition.

For example, if you look around this room, there's lots of timber, there's carpet, there's brick, and probably gyprock up there. We can crush all of the brick and therefore we get a majority of the weight, so we think we're doing a good job, but all the combustibles are just currently going to landfill and I think there are better uses for it long term if we can work out ways of getting it out of the landfills. I think more than 60 per cent of the current waste stream could still be reduced, with just a few smarts and, unfortunately, a slight price increase, or a reasonable price increase.

For us to make the same gains in the areas listed above to vastly improve the recycling of valuable resources, there needs to be support in two areas. The first is levies. I've talked about levies, but I'm going to go back to them. They should be charged at the gate of every landfill and all tonnes that are disposed of should attract the landfill levy. I've said and again I say: even-fill.

An extractive industry levy for product that is coming out into the market: one of the issues with Adelaide - and again I don't do a lot in other states - is that we have about five or six quarries that are all very close to the city and we don't have a lot of cost advantage. To produce crushed concrete or to recycle, it's substantially more expensive to produce the finished product than it is to produce a virgin product out of a quarry, when you rely on a gate fee for disposal and we rely on reasonable selling rates to cover those costs. The quarries, as a result of producing aggregates for concrete and asphalt, produce our products almost as a by-product waste, so often they're happy to dump them into the market just to turn the material over and get it out of their industry or out of their quarries into a market.

In the last seven years, in a market that was quite saturated with quarry product, we've put in about 800,000 tonnes of recycled product. We've brought that back into the market, and that is a difficult thing to do with a market that already had quite a saturated volume of material. To bring 800,000 tonnes back into that market has meant that the margins are extremely low and, as we speak, we've got quarter of a million tonnes of product sitting on our sales pad ready to be sold and quarry products are passing by our gate and going into projects that are not too far away from us. It's a fact of life, it's one of the things we live with, but it's something that I think needs to be addressed. How do we bring these volumes of recycled products into markets that are already quite saturated with new products? Therefore, I go back to an extractive industry levy as in the UK example, where they put a levy on extracted virgin products to ensure that they are dearer than recycled products.

I think another way of dealing with that might be to put a proviso on each quarry that they have to sell a certain amount of recycled products each year before they can sell their quarry product or in conjunction with their quarry product. I think that's another way of putting that material into the market.

Levies can be hypothecated in programs that are environmentally significant, so if we collected levies they don't have to just go into general revenue. We could use them in such projects in South Australia as trying to get some more water down the Murray, policing illegal dumping, better policing of EPA licences. We are very sparse on the ground with EPAs and people, and I think hypothecating funding into EPA policing would be an excellent way of doing it. Coming from an industry person, I doubt that very many people would like to hear that, but we spend a lot of money protecting and establishing our licences and it would be nice to have the resources on the ground to assist us from the EPA. I've suggested water-saving infrastructure, things like national parks, and then some of the money could go back, as it does through Zero Waste, into recycling infrastructure.

Levies can also support the recycling sector to develop new R and D initiatives to develop applications for additional waste streams. If the price goes up, we can put our price up a little bit and therefore we have some money that we can reinvest back into our businesses. We put a vast amount of our money back into R and D, looking for new ways of recycling our products and coming up with new products to sell. That costs a lot of money, it's expensive. R and D research could be funded somewhat by not only the levies going back into R and D projects, or some of the levy, but also our ability to achieve a price that assists us to do R and D as well as make a profit for today. Let's face it, that's what we're all about.

Government initiatives is the second thing I think that would help. Governments need to lead from the front the take-up of recycled products. For example, recent grant funding for Roads to Recovery programs should have encouraged the use of recycled products. I use the simple dollar. If some of these government projects went out and said, "We will pay $1 for a virgin product but we're happy to pay $1.10 for a recycled product," that may also assist us to get into the market.

A recent example is the Port River Expressway, where about 450 to 500 thousand tonnes in total of recycled product was used. Transport SA made no bones about the fact they wanted recycled product used in that project and in fact in the tender process wrote in a 10 per cent allowance for the use of recycled products. We were able to put, as I said, about half a million tonnes. I think nearly 90 per cent of that entire project used recycled products. That's a watershed product for our company and our industry in South Australia. It's seven and a half kilometres long and goes through a swamp. We were able to produce quite a variation of different

products to feed into that project from 300 mil minus type ballast up to cement treated, and Transport SA worked very closely with us on that project. I think we'll do several more in due course. So I think government helps.

MR BALNAVES: To draw out that point, from our perspective one of the most important initiatives that we could see on the horizon would be for the federal government to stipulate a recycled product requirement, equivalent to the green energy requirement for electricity suppliers. I think there is strong precedent for it. In the Port River Expressway, as an example, the state indicated they'd be happy with a 10 per cent recycled product input. We actually think that the way forward is to go a big step further than that and have a stipulation any Commonwealth contract should have a minimum recycled product component; I would have said in the order of - a starting point would be 10 to 20 per cent.

That would have, from the Resourceco perspective - and the way that Resourceco has developed, if construction and demolition waste can - the key thing, you can find the waste but you can't always find sales, to sell the product out the other side of the factory or the processing plant, so it's very important to have those sales and it is hard to drive sales when you're competing against virgin product. But from that base, Resourceco, in terms of a construction-demolition-processing base and selling roadbase products has been able - has had the financial security, if you like - to move into what I think is the more impressive recycling, which is the recycling of what Mike would describe as combustibles but essentially what you'd call hardcore landfill products: plastics, unsorted paper, carpet, things like that that are, in most environments, going to end up in landfill.

Starting with the base of having a recycling business in aggregates enabled Resourceco to take the next step, which otherwise wouldn't have happened. So how you start the cycle progressing, in my view, is actually to ensure that you've got demand for the products. I think an overarching requirement from the Commonwealth government that all federal government road projects have a 20 per cent recycled product requirement would certainly stimulate that demand, and it can be met. There's no doubt about that. It's the Commonwealth's money at the end of the day that goes into these projects, so it does have the power to enforce that around the states.

MR WEICKHARDT: The Commonwealth doesn't have any money of its own. It's your money and mine that they dispense on our behalf.

MR BALNAVES: Well, I'd like it in recycled products.

MR WEICKHARDT: Well, you might - but that's why we're here.

MR HAYWOOD: Further to that, the next stage of the Port River Expressway, the bridges - we've also secured that work. There's about another 50,000 tonnes going to go into the bridges that go over the Port River itself. Further to what Mark was saying, the next stage of Resourceco's development is the alternative fuel project. It's a joint venture between Adelaide Brighton Cement and Resourceco. It has the capacity, when stage 2 is completed in the third fiscal quarter of this year in around August, of processing some 300,000 tonnes of mixed waste and producing around 120,000 tonnes of combustible material.

Several names: waste-derived fuels, lightweight alternative fuel, whatever we want to call it. The reality is, as we speak, as we sit here, we are currently burning nine tonne an hour, 24 hours a day, seven days a week of this material in Adelaide Brighton Cement's kiln. It's reducing their gas consumption at the moment by a little under one petajoule. It has the potential to reduce their gas consumption by around 1.2 to 2 petajoules, which I'm told is the equivalent of about 140,000 households' worth of gas. And in a state that has run out of gas, that is an excellent effort. We have had days where Adelaide Brighton has had to turn off because there hasn't been enough gas coming down the pipe to power up the generators. We're quite excited about the future of that process.

Not only does it reduce their gas, but it also reduces their greenhouse gas emissions. I saw some numbers in the week that they've worked on where they believe that the greenhouse gas emission would be reduced by around 1 per cent with this project, of the state's total greenhouse emissions. They call that equivalent because it's not just CO_2. It's various different gases but they do a map to bring it down to CO_2 equivalent. That's an exciting component that we hadn't considered when we started going down this track but it has come out of the process. When they've done their emissions testing they've found that that is actually working. One of the ways they work out how much material is actually going into the process is by the reduction in CO_2 that's coming out of the stack. So it is quite measurable, it's not a little bit. It's quite a lot in their process.

In that process we will also pull out about 8,000 tonnes of additional scrap steel metal: brass, copper, ferrous, non-ferrous type materials. We'll pull about a hundred and something thousand tonnes of inert materials that can go back into our crushing process. We talk 120,000 tonnes of fuel. It's actually half a million cubes of material that would otherwise end up in a landfill that would genuinely take half a million cubes. You can't compact that stuff too well. It doesn't go anywhere. It's all wood and those sorts of materials.

We are very excited about it and we would like to see it brought into things like the renewable energy credits. We think that, if we were turning it into electricity, we'd get renewable energy credits. Because we're turning it into a gas reduction in a

cement kiln, they aren't there. That would go a long way towards helping us with R and D to get to the next stage, which is actually taking some of these combustible materials and generating electricity. We've already spent 4 and a half million dollars. All of that money has come out of Resourceco and Adelaide Brighton Cement's budgets. By the time we finish this process and stage 2 is fully established, there will be more than a $20 million investment.

The next stage from that will be to look at making some biomass fuels and trying to set up some electrical power generation. Things like renewable energy credits on that would assist us to get the money together to do those things. Another idea or thing that we believe might be beneficial is to have tradeable greenhouse credits, as a project like this is reducing greenhouse emissions. There are some businesses that can't reduce their greenhouse emissions. We would like to see a greenhouse credit system established where greenhouse credits were tradeable. They might be tradeable with landfills; they might be tradeable, as I said, with other businesses that don't have the capacity to reduce their greenhouse emissions. It's just a thought that we have.

I think there's a couple of very important benefits. There's an increase in employment when you recycle. We employ 70 people to do our process. A landfill processing the equivalent volume of material might employ 10, so I think there are seven people employed for every one in the landfill. The reuse of existing extracted materials will extend the life of quarries and existing landfills. Just because the resource is just there, why should we use it? Our kids, or their kids, are going to have to go 100, 150 kilometres to get to those quarries when we're burying material today that can go back into the industry that will mean we don't need to mine so much of our quarries.

We've actually batched our aggregates and made concrete out of them. We have a couple of footpaths that are four or five years old now and they're as good as any freshly batched with virgin product. We have done some industrial slabs and they're still as good as - you would walk over it, you wouldn't know you were walking on recycled aggregates, so we can rebatch our aggregates into tomorrow's concrete without a problem.

Waste to energy will not only reduce reliance on fossil fuels but can also, as I said, reduce greenhouse gas. I think the ultimate aim for all of us - and this is Mikey living in my little world of Utopia - I think I'd like to see Australia become a leading edge country in sustainable living practices. I think if we're smart in the next five years we can certainly do that. That's about all I have to say, thank you.

MR WEICKHARDT: Thank you very much indeed, Mike and Mark. I should say at the start, as some of my questions might reveal, the terms of reference of our

inquiry and also our general act require us to look at policies that are good for improving the welfare of all Australians from a broad economic, environmental and social aspect. From that point of view, therefore, whilst I understand as the CEO of a company you're interested in things that are good for your company, we have to look more broadly at whether or not policies are good for all Australia.

Let me start there, because you've said in your submission that properly managed landfill really has few environmental or adverse consequences. If that's true, a properly managed landfill that has inert material put into it one would assume would therefore have few environmental downsides. If that's the case, why does it make sense for the government to artificially subsidise a recycling process as opposed to a virgin extraction process? Clearly, if the virgin process were more expensive and the recovery and recycling process made sense, then everyone could be happy with that. If the process of landfill causes other problems and there are unpriced externalities, then again one could see reasons for a levy. But if inert material going into a well-managed landfill is actually a cheaper option for society, why does it make sense to subsidise recycling?

MR HAYWOOD: It's a good question, something that I've agonised over quite a bit. I think if you were to look at the pure, simple 2005 economic, then there's a fair point in what you're saying. The reality is that most landfills don't look at a whole-of-life approach to the landfill. They look at a today approach to their landfill and they just make enough money to make a margin today. Landfills require 75 to 100 years of work after they've been closed. There are issues with leachate that, as we said, if they're properly managed can be quite well handled. But I think overall, just because landfill is cheap doesn't mean we should be throwing our resources into them.

We have some very valuable resources that are going into landfill, just because they're cheap. There's a lot of steel going in; there's a lot of non-ferrous metal going in. Even things like plastics can have a better use than just throwing them into a landfill. Just because a landfill is an inert dump or an inert home for it and it's cheap, I don't think long term that's good for Australia when we can reuse those products today and hang on to some of our fossil fuels. For example, we could throw our 300 cubes of material into a landfill and she'll just sit there. Provided she's properly managed, you had an excellent point. But in that process of what we're doing, we can save up to two petajoules of fossil fuel or natural gas, and we don't use anywhere near that amount of energy to process and produce it.

MR WEICKHARDT: That sounds eminently sensible and I assume, from what you said, it's probably financially very sustainable.

MR HAYWOOD: It is, long term. Right at the moment it's exceptionally marginal

because the landfills don't want to see it moved. They want to get it in their volume. At the moment in Adelaide, I'll tell you now, we have got about 1.3 million tonnes of air space available to our facility and a couple of other resource recovery facilities in the various landfills. There is about 700 or 800 thousand tonnes of material to go into it. So everybody is fighting over it, to get it in.

MR WEICKHARDT: So your point is that currently in South Australia landfill is being underpriced?

MR HAYWOOD: Exceptionally underpriced.

MR BALNAVES: It's still market share for the respective landfills, though.

MR WEICKHARDT: I guess, going back - and I would like to come to the alternate fuel because I think that's an interesting case study, but recycling isn't exactly resource free, either. The fact that it costs money to recycle means that it's demanding resource. Yes, it creates employment but employees are resources, too.

MR HAYWOOD: Yes.

MR WEICKHARDT: It costs electricity and so all those things, I guess, get built into your costs which have to be compared to the cost of extracting the virgin material. Now, it may be, and some people have put to this inquiry that the virgin materials are being underpriced because there are long-term scarcity issues associated with them and we are trying to make sure we investigate that and understand that fully, but I guess there is a point and I think you have made it: if you had one brick sitting up in Woomera, by the time you put that on a truck, took it down to your facility, crushed that brick, you probably would have consumed more energy than you have actually saved by the process of recycling.

So there have to be limits and normally we allow the marketplace to actually try and identify for us which is the most economically efficient and, of course, we have got to take into account environmental and social consequences of all that, too. So those are the issues that we are struggling with and clearly in this area of waste there are lots of different points of view, but the issue about the degree to which properly managed landfill has or has not long-term issues that are being neglected or ignored is a central issue and very important to this inquiry.

MR BALNAVES: I think the important thing, too, with landfill is, in theory, all those costs are provided for by the landfill operator but in practice what you find - and there are some great examples in South Australia and I am sure nationally as well - is that those costs are actually not being borne, they are not being truly brought to account in the pricing of the gate fee for accepting the weights because the

operator knows that they will be able to walk away from some of those costs down the track when people aren't watching; they don't have to do the all the requirements that it has in their licences; someone will have not noticed down the track.

MR WEICKHARDT: Are there examples of those sort of events occurring in South Australia?

MR BALNAVES: Yes.

MR WEICKHARDT: Where are they?

MR HAYWOOD: Our landfill, for one.

MR WEICKHARDT: Sorry?

MR HAYWOOD: The one that we sit on, for one. We sit on the original Wingfield landfill. We bought it in 1991 and the people that filled it up just sold it off and walked away. Now, we spend a lot of money maintaining that landfill. We have just spent more than half a million dollars shoring up all the batters because they were starting to subside. Now, if we hadn't been there, that probably would have happened and nobody would have noticed. It would have just sat there and the batters would have all subsided.

MR WEICKHARDT: What is it?

MR HAYWOOD: The batters? When you build a landfill you basically go up. This is called the batter and it wasn't - - -

MR WEICKHARDT: Okay. It's not landfill that was in a quarry?

MR HAYWOOD: No. She is an above-ground landfill.

MR WEICKHARDT: I see. Right.

MR HAYWOOD: I don't think you would ever get landfill in this town in a quarry. They're too close to the public. We have got a couple of holes up in the Adelaide hills that, again, the quarry industry has extracted a lot of product out of them and now they are left with these huge holes and not quite sure what to do about it. You wouldn't fill them full of rubbish because they are now surrounded - they are in the hills face; they are surrounded by people and they don't want a landfill next door to them. We have one landfill at Uleybury, which is a disused quarry. It's an old Boral quarry and it's not without it's problems.

But the system we have, you don't get water running in. They don't hold water. You grade them so that then the water flows off them. You don't have erosion. But they have got to be capped properly and sealed properly. I know this is a classic example of a landfill that wasn't done properly and, as I've said, if we weren't there, it probably would be largely ignored now.

MR BALNAVES: And the previous owner of that site benefited by being able to charge under what he should have had to charge for all those years.

MR HAYWOOD: They had two owners.

MR BALNAVES: And that's a great example and the reason I deferred to Mike is there are other examples in Adelaide but, I mean, I don't think it's appropriate that I name them but I think it's something that needs to be taken into account because you are comparing theory with practice. So theory is that they factor and count all those costs of maintaining that site for the next 50 or 100 years, what they have to do, but in most cases they don't.

MR WEICKHARDT: Can I turn to your alternative fuel experience? As I understand it from your submission and what you have said, this is largely timber from construction projects?

MR HAYWOOD: Yes. Construction and demolition, yes.

MR WEICKHARDT: Right.

MR HAYWOOD: So like I said, that would get salvaged because there is some value in it, but all the wood around the wall - probably the wood - if this is a wooden floor it's probably just old pine and it probably wouldn't get salvaged and it would just get crunched up and brought in as a commingled mix of glass and wood and carpet, and we sort through it, take out what we can add additional value to and the rest goes into fuel.

MR WEICKHARDT: Okay, and the fuel is really predominantly wood, though?

MR HAYWOOD: Yes, it is.

MR WEICKHARDT: You are not putting old carpets and things like that?

MR HAYWOOD: Not at the moment but we would like to. It has got a good calorific value.

MR WEICKHARDT: Right, and a number of people submitting to this inquiry,

indeed some appearing today, have raised concerns about CCA-treated timber - treated pine. What do you do to avoid - or do you avoid using CCA product in the alternative fuel?

MR HAYWOOD: No, we don't avoid it. What we did do was in the process - a testing process - that we undertook with stack emissions and then testing the clinker, we actually artificially added more CCA than what you would normally get and produced a product that we then burned in the kiln and did all of our testing, and we found that there were no emissions and that any of the heavy metals actually end up in the clinker. Now, there are people much better qualified than I am - I'm just a humble wastie - who can tell you why that happened and where that happened, but that is the understanding we have, that the arsenates are destroyed.

A very simple example: we blow the material into a burning zone, which is just above a huge gas furnace. They drop lime - or Adelaide Brighton Cement have powdered lime, because they grind it really fine, and they drop that through the top of the precalciner. The calcining process is the driving-off of CO_2 and there is intimate contact between our products and the lime, which acts as a scrubber, or in emissions. As one of the Germans told us when we were in Germany, "If you were to design a kiln for burning wastes from the ground floor up, when you had finished you would have effectively designed a cement kiln." And that's why Europe is just 25 years ahead of where we are at in this sort of technology and in what they are doing.

Like I said, we artificially - I think we have produced 10 per cent contaminated product. At the moment, every single sample that we have taken there has had a testing and we wouldn't produce half a per cent of CCA in the overall product of what we do, but we have actually done a trial at 10 per cent and been very happy with it. Similar to what we did with plastic. At the moment our plastic content is about one and a half per cent. We actually artificially made a 10 per cent plastic brew, which is a lot of plastic with wood, and again we did the stack emissions and we did all the testing to make sure that there were no emissions and it came up very good. The results are excellent.

MR WEICKHARDT: That is particularly interesting, and are these tests and trials that Adelaide Brighton Cement have submitted to the EPA?

MR HAYWOOD: Yes. They have been done in conjunction with the EPA. The EPA in Adelaide have been exceptionally good with us on this project. The Adelaide Brighton Cement people, who are quite active across Australia, have said to me a couple of times they don't believe we would have got this project off the ground in any other state. I think our EPA has been such up-front and worked so closely and been a part of it and they have been very intimate with the process. In fact, when we

meet with them they are often saying, "Can you put this in?" and "Can you put that in?" It was the EPA that actually introduced Adelaide Brighton to Resourceco. So I guess they should be commended on that work.

MR WEICKHARDT: But you don't think that the EPA are happy because they have more lax standards than EPAs in other states?

MR HAYWOOD: I'm not qualified to comment on that. I'd like to think not.

MR WEICKHARDT: Okay. Well, it's an interesting story because we certainly have had a submission from the Cement Industry Association bemoaning the fact that in some states there are attempts to get permits to do exactly this sort of thing with others wastes. In one particular case in New South Wales with tyres, it had been frustrated by various either local government, state government bodies objecting to this, not because it doesn't meet emission standards but because it is seen to be incineration, which is considered evil, rather than, as you say, waste recovery, which most people would see to be as good.

MR HAYWOOD: It's all about education. If you talk to Adelaide Brighton Cement, we have been working with them for four years, they have been talking to their community about alternative fuel for substantially longer than that. Throughout this whole process we have had a consultation process with the local community, we've had consultation processes with the Port Adelaide-Enfield Council, which is the district in which it resides and largely we've engaged the EPA very early in the process. So there has been a fair bit of ownership of what we are trying to accomplish. Adelaide Brighton Cement also have Coburn Cement in Perth and we would like to pick it up and take it to Coburn but they are on us, saying that the Perth environment - they wouldn't even think about it for quite a few years. There would have to be substantial changes to get it up there.

MR BALNAVES: I also would say I wouldn't underestimate the commitment from the people involved and the amount of money that is being put to this project by both Adelaide Brighton and Resourceco. You know, when you look back and you see it running, you say, "Oh, that wouldn't have been too hard," but having sort of sat back from it and watched the number of people involved and the commitment from them, it has been a really hard task and the reality of it, to tie in with what I was saying before, it wouldn't have happened if Resourceco didn't have a sound financial position which comes from its aggregate recycling business.

MR WEICKHARDT: Do Adelaide Brighton use any other streams? Do they use tyres and things like that?

MR HAYWOOD: They use carbon black.

hired and so on. It wasn't in my interests to hire a panel beater. They were far too clever and I would have opposition in town in no time, so I kept the technology closely to myself. It took quite a while to develop such technology, I might say. Then in mid-90s I thought this is ridiculous; you can't bottle technology. Really the collision repair industry need to know how to repair these products. Looking at it from a financial point of view, I thought, well, perhaps there's a dollar or two if I teach them how to do it, so that's when I went down the road and became a private provider. I started doing training seminars in panel shops mostly up the east coast, but I would have trained - including some TAFE colleges - about 150 panel shops, usually in groups of four in a panel shop, on how to repair automotive plastics.

This is where it really drew my attention to just how serious, critical and how growing the plastic situation is. It's only a small industry, a cottage industry one could even say, compared to say the industry of the previous speaker, but if you look at automotive plastics, they're gathering on us at an incredible rate. To start with, you know, if we go back to the 1960s a car had about three or five kilos of plastic in it. Today they have up to 200 kilos of plastic in them. In Australia we would put into landfill per annum about 200,000 tonnes of plastic. About 150,000 tonnes of that would come from the steel recycling industry, who take automobiles in in any condition, grab them, put them through a shredding machine.

They recycle the steel of course, the ferrous and non-ferrous metals, and everything else which they call flock, which is about 17 per cent - other researchers apart from myself have come up with the same figure - that 17 per cent just goes straight to landfill. That flock, as they say, is mostly plastics, rubberised plastics, glass, maybe some wood, even a bit of dirt perhaps. Wiring looms is a big thing that goes. There's a copper content there, so hundreds of tonnes of copper goes into landfill each year - the reason being is because the industry can't afford to touch things by hand and pull little bits and pieces out. It's just not economical to do so.

My chat today mostly is not so much on flock entering the landfill. At least in Melbourne where I did some research on the subject it goes to a designated landfill site in Werribee and perhaps, who knows, one day they may start to mine that. I mean, you know, copper is such a price now - it has gone up about 300 per cent or something in a very short while. I can see the day when they'll be mining these tips that we call them, or landfill sites, because the resource is in there and the biomass will actually be quite a good resource.

Really what I want to talk today about is what is happening in the collision repair industry itself. In the collision repair industry itself every panel shop each week on an average you could say you see a wheelie bin go off to landfill and it's full of everything. It's full of paper, packaging, containers, bottles. There will be chemicals in those bottles, perhaps residue, et cetera, and so forth, including plastic.

If we look at a modern motorcar today when it has an accident, my research has shown that over half the parts that are put on that car to repair it are plastic.

A couple of things listening to questions and so forth from the previous speaker brings me to say - and agree with the commissioner here - that it really needs to be self-funded to have anything done in research. I mean, we can have a certain amount of levies. Maybe governments can help kick-start things and put them in the right direction. I think it's difficult to ask government and expect them to hand out - as it was pointed out to us - shareholders' money and we're all shareholders, I suppose, being taxpayers. Really it's a cause and effect. It has really got to pay its way. If we start looking at landfill sites as they fill up, they start to go out further from town so therefore the trucking of the waste product becomes more expensive, transport, so therefore people may be looking a little closer to it; but in actual effect no matter what happens, it has got to be cost-effective. Cost-effectiveness is a prime concern.

Where it interested me in my research, it showed that working on $80 an hour, if there was an education program throughout Australia, a saving of about $70 per claim would result if the skills were out there to repair plastic. Now, I say this without any vested interest because I do not train now. I'm more involved in studies now. That equates to about $30 million insurance companies would save on parts and panel beaters would save about $27 million in labour, and employ about 200 or 300 additional people.

On the research that I did on examining quotations - and it was rather detailed - I was looking at quotations and with my experience was able to do so, and assessing cars prior to them being repaired, looking at them after they had been repaired, looking at what I had assessed of what plastics could be repaired economically and properly as opposed to new parts put on or not put on, and it gave me the results to come to that figure; so it was a rather in-depth study as to how many people were repairing plastic and so forth. It's interesting to look into the reasons why aren't the panel beaters doing it. One should say, "Look, there's that money there. Why aren't they doing it?"

Of course, at the moment panel beaters are under tremendous pressure financially. There was already a Productivity Commission that's most likely closing up now into the collision repair and insurance industry. There's also a Stay Safe committee in New South Wales looking into the collision repair industry. Because there has been such a terrific power shift from the panel beaters to the insurance companies, they are really controlling the industry at the moment, there is no doubt about that, and also controlling it with - I could go as far as to say Draconian contracts.

For example, $23 an hour the panel beaters have been working on for the last

15-odd years. One might say, well, why don't they just not do the work? Well, it's pretty hard if it's an insurance company and it's 80 per cent of their work, and they say, "Well, there's a contract. That's what we'll pay you to do it." There's really no incentive for them to train staff. When we get down into small business, small business is a business that really doesn't embrace training. The average panel shop might only have five or six people involved. They're too busy getting on and making a dollar, not training.

The theme of this discussion that I'm putting forward to the commission really is two things and one is training, which is very important. That is going to lead me into talking about the TAFE system, which is something that I would like say. Panel beaters just do not have the money to train people. I know from my experience how much it takes in time to repair something. You walk into a panel shop and you see a very good guard laying on the ground with maybe 20 minutes - you could repair it in 20 minutes, but they put a new guard on there at say $200. I mean, it's quite astonishing to think, well, what such a waste that is. Why is that happening? Why it's happening is because of the suppressed hourly rate.

In my view I feel insurance companies are near-sighted, because what they are doing is by keeping an hourly rate suppressed, less parts get repaired that are easier to repair; because if a panel beater turned around and put down say an hour to repair that part, they're going to give them $23. This is ludicrous, so he thinks, "Well, I've just got to put a new one on and at least I get 40-odd dollars mark-up or $20 mark-up," or whatever it might be and not do it, so there's no encouragement for them to repair. Whilst I say that, the industry is in a stage of flux at the moment. There are some changes going on, so I wouldn't like to stand here and be so ready just to say things aren't happening. There may be different trends. There may be another look at the hourly rate and so forth with the present commissions that are in place.

If we look at training and we go back to say when Prime Minister Keating held our number 1 job in this country, he made the statement that training should be the responsibility of industry and I would agree. I would agree as long as you have a safety net. That really came about with competency based assessments and so forth, and because technology moved so quickly, industry are really the best to decide what their training should be. What about small cottage industries or small craft industries? We have had a tremendous system in this country, the TAFE system, for many, many years that took responsibility to train individuals, but my research showed - because I surveyed 41 TAFE colleges throughout Australia that were teaching the panel beating trade and I had about 11 replies, which is about average for a survey - that they are absolutely strangled for funds. The TAFE system is strangled for funds.

Some of the questions that I asked related to on-training for their staff and so forth. They said, "Well, we just can't get budgets for it so we can't keep up with what's happening." It seems to me, as a layman, to think that it seems to be a system in place really for us to cut the TAFE system right out. We've see closures everywhere. We've seen the panel beating department close say down in Mount Gambier. TAFE institutions just aren't learning institutions. I mean, you know, they're institutions that are useful to that particular society. They bring people together. There can be sports and so forth, so they offer far more than just a learning institution.

More back to the point of what we're discussing here today: what they are is a safety net to train those in small industry that otherwise will not get adequate training. I put it to the commission that this is a serious area that should be discussed and looked at, because we need that safety net for the skills to come through. It is not often that we see in the paper about skill shortages in this country. I think government has a responsibility in training to keep that safety net there. The TAFE colleges really should be the leading light. They really should be the institution that private providers use as a yardstick. They are not today.

TAFE colleges today are absolutely being throttled to death. Whether or not this is a deliberate policy so that the TAFE system can eventually lose ground and the position will then go over to private providers - but the other thing that hurts the TAFE situation is this: since competency based assessment came out and TAFE colleges were told, "Look, you've got to make yourself pay your own way. You've got to get out there. You've got to find your own clients. You've got to turn around and make the bottom line pay," well, we've got academics running around trying to earn money and so forth, but that's not where their skill is and they're not very good at it, anyway.

You've got to get there, you've got to find your own clients, you've got to turn around and then make the bottom line pay." Well, we've got academics running around, trying to earn money and so forth. That's not where their skill is and they're not very good at it anyway. With the TAFE colleges all of a sudden then they start to bottle up their technology and what they do know. They think, "Well, I won't let the one down the road know what I'm doing because if he knows what I'm doing then he might get the customers that I can get" so they're scrambling amongst themselves even for their clients once we bring in this aspect of them having to, shall we say, make a profit.

With any sort of learning we should go forward on the shoulders of those that went before us. I can't tell you who the quote is from. They're not my words, they're somebody else's. Those that have gone before us and who bring skills, we should be able to go on with that and not have to keep reinventing the wheel. As it's going at

the moment, this is what TAFE colleges have to do. They've really got to get out there, write their own curriculum and put their own package together and so forth. So I see that as an area really that - skills shortages which create additional waste and education is an area that really needs attention.

The other area that I think needs attention is user pays. I don't sit in front of the commission - I notice the commissioner brought this point up a little earlier. You know, we can't let the government say, "Throw money at this," and, "Throw money at that." On over $150,000 worth of claims the insurance companies I think allowed $17 for waste disposal. So all of a sudden we've got the poor panel beaters having to turn around and get rid of their waste out of their $23 or $27 an hour; it's different in each state. It seems to me that there should be a levy like there is in some other industries that a panel beater can impose for waste removal or waste sorting. I won't go into what I think it should be. That can be looked at by other people. It is very difficult to eradicate - good plastic can be recycled from the collection of rubbish when it's all put into one bin. He is not being paid to separate his waste. There are some shops that do it, that go into quality management systems, but on the whole they don't. It will all just be thrown into one big heap.

So we've got two things with the panel beaters, haven't we? We've got an area whereby they just throw their rubbish out as quickly as they can and not even take the metal off it. If there are new bumper brackets, leave them on. It's cheaper to put a couple of new bolts on. No stripping or anything goes on because they're not paid to do it. So this goes into landfill and it runs into pretty serious dollars. I'm not going to dig into here. I was going to dig into here and start giving you some facts and figures, but I think my submissions are on the web site, so anybody who is interested can have a look at the actual research itself. I'd rather just skip along the top and perhaps go into questions which will direct it more as to where anybody here may feel there is something that warrants further discussion.

But I noticed with interest a few things that the previous speaker said which I totally agree with. One was that recycling does create employment. Employment isn't just a matter of giving money away to keep somebody employed. It's got to be justifiable. To employ somebody, they must make a profit. So that was one point that I think is very true. The second one - well, he spoke about levies. The other one, he spoke about Europe being ahead. Well, we can take some lessons from Europe.

We can even take some very serious lessons from Europe in automotive plastic waste. They have a policy in Europe at the moment called ELVs, which is end-of-life vehicle. I'm sure that some may know about that. But they are looking down the track - and I can't pull the figures off the top of my head, but it might be somewhere like in about 2015 there will be no waste from a car. Also the

manufacturers are responsible for the waste. So if you buy a new Mercedes and keep it for 15 years and you've had a enough and get out and just leave it because it's had it, Mercedes will have to come and pick that up and dispose of it safely. We don't do anything in this country along those lines. We sort of sit back and let things just roll along and let private enterprise tackle it.

Private enterprise is all very well but, I mean, in private enterprise we've always got vested interests and it doesn't always work out to be the very best for the community. You know, if we look at a policy for a good Australia - and I take the point that was mentioned earlier that Australians on the whole are interested in our environment. We are interested in recycling. I mean, I must say my wife is like the rubbish police in my house. I'm not really allowed to go near the rubbish bin, she's that adamant that this must go in this bin and that must go in that bin. So I use that as an example to show that there are people in many, many households that turn around and look at this seriously.

So, I mean, education in industry could even bring it, I think, to a higher pitch. But Mr Chairman, look, I suggest if I may - because I'm starting to just repeat and dive around a bit now, rather than give a straightforward discussion on my submission, but to throw it open to questions to see where it may go and allow me to answer them?

MR WEICKHARDT: All right. Thank you very much indeed, Graham. As you say, the Productivity Commission have inquired into the crash repair business. Our final report was lodged last year with government. I think it's true that in that we did recommend against the "funny time, funny money" system that operates in that industry. That's outside the scope of our particular inquiry but you make some interesting comments about the consequences that may arise from those distortions in terms of the way that industry behaves and its choice of new product versus repaired product.

It seems that it's a little crazy for an industry that is, as you say, under a lot of pressure - the insurers would claim they're under pressure and I know the panel beaters believe they're under a lot pressure - if savings can be made by repair rather than new product, I would have thought that there ought to eventually be some sort of action that will attend to that, and perhaps your representations will help in that process. So thank you for that.

You make a comment in your submission which probably is in magnitude a much more relevant issue so far as this particular inquiry is concerned, and that is the volume of plastic and other material that goes away as automotive flock. I think you mentioned 150,000 tonnes a year going to landfill. Given the comments by our previous speaker about the potential of some waste being converted back to energy,

you've mentioned in your submission the sort of concept of pyrolysis converting some of that plastic flock into other products, but do you know of any work that's been done to investigate whether or not that plastic flock could be used in a cement kiln as fuel?

MR McDONAGH: I wouldn't go as far as to say just in a cement kiln, but there is a lot of work at the moment being done around the world on pyrolysis. It seems to me, on my research, that pyrolysis really is the in game, because the pyrolysis systems - which is the degradation of material in the absence of oxygen and the application of heat, which brings it down to carbon blacks and other useful materials, and of course at the same time that material doesn't go to landfill.

But the beauty of it is that you can put all of this material in without having to separate it. It all gets down to the labour content. I understand there is a company - I did see somebody was starting to do something along the lines of pyrolysis in Melbourne. I was speaking with the CSIRO about pyrolysis. They were interested in it over there, but of course funding once again is difficult to get for any research on these things. Industry is so busy doing its own thing that - if a good submission is put to industry, you may get a collective approach from them, but they've taken a bit of a different view.

In Europe they have just turned around and put down legislation and said, "Fellas, by the year 2015 you will have maybe 5 per cent that will go to landfill," and they're doing a good job. When governments think far enough ahead and do these things - we can go back to the 70s and the fuel crisis. In the US they brought forward legislation - I can't quote it just off the top of my head - that vehicles would have to do X amount of mileage per gallon by the year - I think it was 1994, and they all threw their hands up and said, "It can't be done," and so forth. By the time 1994 or whatever it was got there, they were that far inside it, it was quite amazing, because they did it with the advent of technologies that came along.

But, yes, I think there's room for a lot of work to be done on pyrolysis - for it to be investigated - because there is a lot of research being done by various institutions around the world on that very subject, and I see it as an answer. It could well be that in - I don't know - 20, 40 or 50 years' time there could be a giant pyrolysis centre in each city that would take almost all of this type of rubbish. But one thing is for sure: we just can't keep shoving it in the ground and making mountains out of it. One day it has to stop. The sooner we start to look at it - of course, it's our duty to do so, I think. In answer to your question on pyrolysis - and it's in my written submission - there are a number of projects referred to on that very matter.

MR WEICKHARDT: I guess that's a nice segue into the cautionary note, which I guess is why organisations like the Productivity Commission are asked by

government to look and think carefully about policy recommendations, because every new policy has some other consequence.

MR McDONAGH: Yes, cause and effect, of course.

MR WEICKHARDT: The drive to greater fuel efficiency was the thing that caused more plastics to go into cars.

MR McDONAGH: It did, indeed.

MR WEICKHARDT: More plastics going into cars ends up with a greater waste stream down the track. It's easy to sort of spot a problem and say, "I can fix that problem," but the action sometimes ends up with some alternate consequence which is undesirable. That's why we're here and we're trying to think carefully through - - -

MR McDONAGH: In reply to that statement, it's one reason why really a wider focus on research should be permitted when these particular projects are looked at to really take it through to the tail. Narrow submissions tend to stop and don't address what the consequences are. As we all know, cause and effect is apparent no matter what we do in life, and it's the same as when we do this, as you so ably pointed out. I really think the answers are there, but it's to find the funds so that they will fit without serious repercussions.

MR WEICKHARDT: In the area that you're particularly focused on in the submission of product that goes from crash repairers - and particularly plastic product that goes from crash repairers - and at the moment, in your view, unnecessarily some of it goes - it seems that the actual tonnage is fairly small. Do you have any view that there is a significant environmental consequence of that product going to landfill or are you simply concerned about the fact that this is a resource that could be recycled and reused?

MR McDONAGH: Plastic leaches over time. We know that. Most of the plastic in automotive parts that find their way into landfill are from the polyolefin group, which is the petrochemical plastics such as polypropylenes and polyethylenes. They account for about 80 per cent of all the plastics, I understand, that go into landfill. I can't tell you, but I'm sure there's been some work on it - how they break down - but their oil content is pretty high. It's not only their oil content, of course; they have other things in them too. With two pack paints today - I don't know whether there's a carcinogenic problem with that but there's a cyanide aspect when we look at two pack paints in cars. It may be that it's stabilised. I don't know enough about that side of it. The paint industry - I'm sure that they've addressed the commission somewhere along the line.

The problem with being able to recycle is that recycling is extremely dominated by a hands on - it's not an easy industry to play around with and it's got to have the margins. The difficulty in recycling automotive plastics - and it can be done and there are companies that do it - is that they can't rip up their time in handling the goods. In my bumper factories I recycled I think about 30 tonne in granulated, and went down that track and sold it. I got about 40 or 50 cents a kilo for it, so it doesn't leave much for plant and equipment and labour. But then you're up against the oil companies that sell the original material to injection moulders, say, for $1.20 a kilo. They're pretty flexible. They can come down or go up and do as they wish.

So there's a pretty narrow band in there, and there's not enough room really, say, for people to sift through and take out recyclable plastic. That's why a division of some sort needs to be put at the source. Let's take a panel shop. If it was at the source and a panel shop, say, got 1 per cent per quote or 2 per cent per quote, that went towards him separating his plastics, say, into another bin, at least it would cover that cost because he is getting something for it.

So when I talk of a levy and user pays, well, of course, the insurance company would pay that and obviously and most likely down the trail, whether it was a few cents or whatever, it would go back to whoever had the accident because it would reflect in insurance policies. So it could be done with the user pay theory but they are the sort of things that could be looked into a little further. It mightn't sound like much but, I mean, all of these things add up and it's getting bigger. If we start to look at flock that is going into landfill, you've got to bear in mind that the feedstock into shredders at the moment - and I think there are about 12 or 10 in Australia - the feedstock into shredders, there's about a 15-year lag time in the cars they're putting through. They're about 15 years old, so therefore you're looking at a plastic content of, say, between 80 and 100 kilos.

But the present cars - and this is a problem for their industry, as well - have a content of around 200 kilos. So what the steel recyclers are going to find is they're going to have a bigger percentage of flock with a higher percentage of plastic in it, and also it's going to detract from their business because they're going to have less metal, because this plastic obviously replaces metals. I would hold the view that I think the plastic content in cars has just about met its limit. You will always find a mix of steel, the alloys and plastics in a car. I mean, people talk more plastic cars and more plastic bodies and so forth. Perhaps so, but I mean, it still gets down to in the manufacturing phase what material suits the product best.

So, you know, it's going to get worse, is what I'm saying. There is 200 tonne - and that was a few years ago - per hour. There's 150 tonne - I mean, obviously there's going to be 300 tonne in another 10 years. So this is a problem that is going to fill landfill a lot quicker. It's going to put pressure on the steel recyclers, so they

are going to offer less for the - and this is the knock-on effect, I suppose. So they will offer less, won't they, for car bodies, because they are going to have to maybe truck their waste further afield and so forth. But pyrolysis - I think really that pyrolysis, good research on pyrolysis, could be an adjunct to their business as a pyrolysis plant, within their businesses, really.

MR WEICKHARDT: Okay.

MR McDONAGH: But as a previous speaker said, it's very difficult when you go along to some of these people and tell them. It all sounds very good but, you know, industry has got its budgets and they've got their direction and so forth and it's very difficult to change thinking, once people are comfortable with what they're doing.

MR WEICKHARDT: Okay. Well, Graham, thank you very much indeed for appearing before this hearing.

MR McDONAGH: Thank you.

MR WEICKHARDT: Thanks for your input. We will adjourn now for about 15 minutes. Thank you.

MR WEICKHARDT: Our next participant is Mr John Phillips from Keep South Australia Beautiful. John, could you announce yourself and your position, please.

MR PHILLIPS: John Phillips. I'm the executive director of KESAB, which is the acronym for Keep South Australia Beautiful.

MR WEICKHARDT: Thank you for your submission, which you should assume that we have read, but if you want to highlight some key points, that would be fine.

MR PHILLIPS: Thank you very much for the opportunity to present. That is in fact the way that I want to approach today - is to pick up on some key points that KESAB made within its submission. For the record, KESAB is a not-for-profit environmental education body that partners with a number of private and public sector stakeholders. Our core business is about community engagement and changing behavioural and attitudinal approaches to how we as the board and community can manage sustainability and the environment into the future.

We deliver a range of programs and initiatives, both in South Australia and throughout Australia. We conduct the only litter counts in Australia, or I should say we conducted the only litter counts in Australia. Our methodology was recently adopted by Environment Australia, the Department of the Environment and Heritage in Canberra, and we've just conducted the first Australia-wide litter count process. We run a number of specifically targeted litter reduction awareness campaigns. We play a significant role in South Australia with container deposit legislation and education. We're the only state in Australia that has that regulatory approach to litter abatement.

We conduct a number of research projects with a very strong focus on understanding socially how we can engage the community. We have a strong focus with schools education, and in fact at the moment are developing a state Zero Waste SA schools education program which sits under a sustainable schools program Water Waste Energy and Biodiversity, and we facilitate a number of other programs which have a very strong educational base.

There are several areas that we wanted to present formally today in response to the submission. One was community education, relative to the question within the guidelines on web based communication. We would say that community education is actually paramount to achieving any sort of community engagement in this instance of resource recovery and, in simple terms, for the average punter, recycling. Education can be delivered in a number of ways: the traditional classroom context that we're all familiar with, through some of the sorts of programs that we might run such as Tidy Towns or Clean Site or Waterwatch or Road Watch - those sort of participatory programs. They can be delivered through a variety of communication

mediums, and of course they can be delivered through compliance and penalty. That's another way of engaging the community.

From our perspective - and this is certainly supported by very recent research - for the general community to respond or participate in activities - be they federal or state or locally government based; whether they are driven by industry or built into a structured education system - it's our observation that to engage the community it must be easy. It's got to take a minimal amount of personal time. It certainly shouldn't hurt the hip pocket. It needs to be sustainable and, at the end of the day, there probably needs to be some sort of incentive. Extended producer responsibility might be an example of some form of incentive, as indeed container deposit legislation is.

The combination of those sorts of things, I think we're guaranteed to have some community awareness and some community take-up, but that is not necessarily demonstrated by convincing the community that the action that's being delivered is the right way to go, and certainly there are many aspects of resource recovery and recycling and waste diversion - whether they be government or industry strategies - that the community questions. They're not quite sure about the rationale or they're not quite sure about the environmental benefit, and they're certainly not quite sure, I suppose, in the simplistic form, of whether their recycling is recycled or it goes to landfill.

We would be saying that, whilst there's a focus on web based communication, it needs to be more broadly based because we should never assume that the web is the only means of reaching the community; in fact, there are many people out there, by far the greater percentage, that do not know how to have access to web based communication. That was the first point that I wanted to make. I'm not sure whether you wanted to ask any questions at the end of each section or whether I should continue.

MR WEICKHARDT: I think you should move through, thank you.

MR PHILLIPS: One of the other areas we wanted to touch on was illegal dumping. It was rather interesting that that was highlighted within the paper, the Productivity Commission issues paper, because clearly illegal dumping is increasing in South Australia and, indeed, anecdotally throughout Australia. We do have affiliates interstate, and we note that Victoria and New South Wales governments, through their respective agencies, have a number of response mechanisms being either trialled or implemented.

A recent survey that is just being finalised at the moment, but nevertheless we do have the data, shows that there has been an increase between 80 per cent and

200 per cent, subject to location, of illegal dumping in South Australia over the recent period. The survey was over the last three years. Dumping occurs obviously on both public and private lands, but specifically we note that roadsides and residence - where there is multidwelling - has increased and would be the main hot spots. There does appear to be some correlation between socioeconomic areas and fringe urban councils where a metropolitan council might abut an urban or close country council. There is emerging some anecdotal evidence that suggests where a council is offering a hard-waste collection process, over and above the normal weekly domestic service - they might offer a six-monthly or annual hard-waste collection - some residents assume that if they place their product out the front of the homestead on the verge, that it will automatically be picked up as an adjunct or an added-on component of the regular solid hard-waste collection.

The argument is often the difficulty of some people being able to get the waste to landfill or to a disposal transfer station. Often the argument is the rising costs of landfill, but I don't think that we can excuse that there is a percentage of people out there that simply take advantage of the system and they would be the midnight dumpers.

Our research shows that, from 23 councils, those councils alone spent $675,000 just removing illegally dumped items, the greater percentage metropolitan, but nevertheless there was nearly $100,000 in regional councils. If we amortise that across Australia, we think that that would equate to probably nearly $20 million that local councils are spending on illegal dumping management. This would be on top of their domestic waste and other waste management processes.

We would also highlight that there is a significant issue with charity collection bins, the likes of St Vinnies, the Salvation Army and the like. We know of one organisation in Adelaide that spends nearly $300,000 disposing of illegally dumped waste and rubbish that has been dumped at charity bins. They spend that amount of money taking it to landfill. It is a major problem, especially in the name of charity, so there is some work going on in South Australia to look at some options there. Those trials will commence in about the middle of this year.

One of the things that KESAB probably has the most expertise in is littering. We have been, as an organisation, around for 40 years, and we do have a lot of experience of practical and in all other contexts of managing communities and working with industry and governments. As I said in my opening remarks, we conduct litter counts at 150 sites in South Australia, and we have since had that methodology adopted throughout Australia. We would say that litter is clearly one indicator of a community's welfare and it's relevant to their behaviour and their attitude.

More importantly, I think it's representative of some people in the community - their ability to adapt to lifestyle change. By that I mean that the community in the main is not keeping up with changes that are happening around it, especially in the context of packaging, with convenience food and our lifestyle. There are all sorts of packaging products that are coming on the marketplace, and the community has, over a generation, adopted this easiness of throw down, throw away, blow away, without necessarily understanding what the consequences might be. It's a bit like the Indian giver; it's hard to take something back once you've introduced it, and the community is just not keeping up with it.

The cost of managing litter in Australia is literally tens of millions of dollars a year. We did some research as far back as 1994 and, from 169 towns that were broken down into a series of demographs, in 2006 dollars, the towns with 100,000 population plus would spend at a minimum $650,000 per community just in litter management. That doesn't include the cost of litter clean-up and disposal incurred by industry or how the fast food might operate in its own local area. Certainly from the fast food areas, I think there is a lack of clear policy, but that's also impacted by how workers and management can co-relate to some of the issues.

There are a lot of intangible costs to littering. That includes health, safety, roadside amenity, tourism, potential impact of perception of safety, law and order, and the combination of graffiti and littering hot spots can literally put the fear of hell in elderly citizens in some of our areas. Again, there's a social issue that we need to be mindful of.

On the other side, we would see, from a cost efficiency point of view, that the community does do a tremendous amount. Just in one of our programs - the Tidy Towns program - we see that the community probably contributes in voluntary hours and activity about $15 million a year - over 700,000 volunteer hours last year. That is very significant. The roll-on effect, when we look at the Clean Up Australia days and other programs and Landcare and all those sorts of things that have an impact on reducing litter and maybe involving less waste generation, I'm not sure that people fully understand.

From that point of view, we certainly make the point that the Australian government doesn't have a litter policy. The grants program such as NHT or Envirofund or even the National Packaging Covenant are totally inadequate to fund community groups or to ensure that community groups can sustain the work that they contribute. We would be certainly urging the federal government and agencies to play a much stronger visible and support role. By "support" I mean dollars.

Container deposit legislation - I always like talking about container deposit legislation because you're guaranteed of one question: not only one, but there's

always a starting point.

MR WEICKHARDT: I can guarantee you one.

MR PHILLIPS: I thought that might be the case. South Australia is the only state or territory with CDL. We've had this piece of regulation for some 30 years, almost 30 years. In simple terms, 94 per cent of the community work with container deposit legislation. They love it. Contrary to information touted by industry opponents of container deposit legislation, beverages are not more expensive for consumers in South Australia compared to other states. Contrary to industry reports and research, container deposit legislation works parallel with council kerbside recycling systems and, contrary to a number of statements over the years, we have the highest rate of recycling in South Australia compared to any other state. It's very convenient for some industry groups not to include container deposit items in their overall recycled rate figures.

Our beverage container return rates are: aluminium 85 per cent; PET 72 per cent; glass 82 per cent; liquid paperboard 38 per cent. That 38 per cent comes from a base of zero only two years ago at the time when we reviewed the legislation and expanded the number of products. I would suggest that there would be no other state within 20 per cent of any of those figures.

I think it's very important to understand that recycling depots that process container deposit items also process literally thousands of tonnes of paper and cardboard, tens of thousands of tonnes of plastic and glass, metals from products that are not embraced by CDL, car batteries and those sort of things.

Recycling depots provide employment for about 1,400 workers and many of them are young, unskilled, early school leavers that would be unlikely to secure a job in some other position, so there is a localised social benefit that comes through the container deposit collection depots.

The recent data that has been taken nationally reaffirms that container deposit legislation has been very effective as a litter mechanism - as it is a recycling mechanism - because there is between 50 and 70 per cent less litter. Beverage container litter in South Australia compared to the other states. We find it somewhat ironic that, whilst other states have not legislated for CDL or similar litter management regulations, the industries concerned have pumped millions and millions of dollars into trying to develop alternative community based programs or council/local government programs, and I think the proof of the pudding from our perspective is that they have had very little success in litter reduction.

We'd also like to comment on the cost-effectiveness of government and agency

programs and the community and business education program cost justification. We've had significant experience Australia-wide in delivering community and business environmental education programs. In fact, many have been pioneered in South Australia. Again I can't underscore this enough: that is, that it's engagement of the community that is the most important effect of trying to change behaviour and attitude. We need to have sustainable education programs, and it's often organisations like us that drive those programs and put them together because we can act as a middle person. We're not government, we're not community, we're a driver with some expertise.

There are untold examples of where, with government grants, the money has been spent poorly. I don't think that's new. And there are probably examples of business spending their money poorly. But I'm not sure that money, just money, is the justification to determine whether we've had a good outcome or a bad outcome, because we rely very much on what we call the value added factor, and that is that for the dollar that we might capture through government funding or business funding we have expertise in turning that into $2, $3, $4, $5 or whatever. It can come in the form of additional partners, it can be extra funding or in-kind assistance, it can be more feet on the ground, it can be media and community awareness, and it can be branding and corporate profile, and we in our submission outline the three programs where, for a spend of $280,000 in any one year, we can demonstrate a return of about $20 million. Yes, that is valuing the voluntary effort at an hourly rate, but I think 280,000 to 20 million is a significant return that is not always tangible but clearly has some benefits, and it certainly has cost efficiencies.

We would be urging governments and industry to continue supporting many of these programs that sometimes might be open to question, and I would return to the fact that the Australian government does not fund community litter and resource recovery type programs. The NHT, the Envirofund, the GVEHO grants program and, I suggest, the National Packing Covenant mark II all fail to significantly support what is both an area of need and also an issue that has far wider ramifications. If we can engage the community on litter and recycling and resource recovery, on the efficiencies - whether it's hitting their hip pocket or not - we believe there will be some significant social benefits.

We would simply say that we need to somehow get over this "seven states in one country" syndrome that exists in Australia, and not just in the waste or resource recovery business, and have some much stronger strategic development for community support, which will bring some of that engagement. We think there need to be much stronger integrated links between agencies, both at a state level and a federal level. Clearly that's not happening. And I'd suggest maybe we need to be writing the word "urgent" into some of our strategic development, because there is an urgent need to move things forward, given the rate of environmental degradation.

That is all I wanted to say, thank you.

MR WEICKHARDT: Thank you very much indeed, John, and thank you for your

MR WEICKHARDT: Thank you very much indeed, John, and thank you for your

RDT: Thank you very much indeed, John, and thank you for your

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take the cheap option of illegal dumping. Apart from CDL engagement and enforcement, do you have any suggestions about what can be done about this?

MR PHILLIPS: I didn't bring my crystal ball with me today. I think we've got to certainly embrace the fact that we're dealing with people. It's a social issue and, in a political context, I 'd be saying that if we can engage people at this level it has a significant social benefit in all sorts of things. It can be energy conservation, it can be water conservation, it can be how we go about our business. I think part of it is to somehow relate to the community at large. This is very much about planning for the future because there will a replacement cost. So if we think that $40 a tonne is expensive in Adelaide, compared to 160 in New York or whatever it is over there, and that's expensive now, what is going to be the replacement cost in 50 years?

That's one thing that governments or business or the community is not wrapping its head around in the long term. But it's people things because, unless you capture all the people and we know the disposition of many people - it's a matter of hit and run, and that's the challenge that we're facing, whereas if you're in a reasonable, stable position with a family in a house, it's much easier to respond because you've got a system in place. It's a matter of how you capture those people that aren't in the system. That is a huge challenge.

MR WEICKHARDT: You talk about the sort of resource recovery that's occurring in products that are captured by CDL and they're high by national standards. To what degree do you think we're reaching the stage of diminishing returns from hereon in? Have you gone about as far as you can go in that area?

MR PHILLIPS: Yes, there's a scale of economy and there's a cut-off point. The next step will be that the 5 cent deposit will be lifted to 10 cents. That will be on the premise that that will attract better returns, but if you already recover 90 per cent, the chances of recovering another 1 or 2 per cent would probably be where it starts and stops. There's a breakage factor, there's product that is leaving the state, there are all sorts of things.

MR WEICKHARDT: Is there any evidence of product coming into the state?

MR PHILLIPS: Absolutely. I think I refer to that in my submission.

MR WEICKHARDT: So the recovery rate may be boosted by a product actually - - -

MR PHILLIPS: It wouldn't have a margin - it would have a marginal impact, if at all, because whilst there is evidence that it happens, there are, I suppose, strategies in place to ensure that it's minimised.

MR WEICKHARDT: There aren't convoys.

MR PHILLIPS: Sorry?

MR WEICKHARDT: There aren't convoys of trucks.

MR PHILLIPS: At times there are significant volumes attempted to be brought over the border.

MR WEICKHARDT: Is there any law stopping them being brought?

MR PHILLIPS: No. No, I mean it's a labelling issue and through, I suppose, globalisation we now have national labelling on product. No. There's no law. It's a matter of, as I say, strategies are in place. It's not hard to work out where some of the product is coming from, but it's minimal.

MR WEICKHARDT: Right. Okay. And the liquid paperboard that you are recovering now that the CDL has gone on that, too, what actually happens to that liquid paperboard? Do you know?

MR PHILLIPS: It would be Visi or Amcor would take that as a stock. It's a very good quality paperboard stock for recycling into new product.

MR WEICKHARDT: Well, I may be wrong, but I think we have been told there is only one facility in Australia that actually recycles that product, which is in Nowra or somewhere in New South Wales. So is your product shipped over there?

MR PHILLIPS: Well, not our product, but the product from South Australia would be either shipped for reprocessing at plants that can do it in Australia or it could be exported.

MR WEICKHARDT: Right. Okay.

MR PHILLIPS: It's fair to say there is quite a significant export market for some of the product, with aluminium and HDP and the like.

MR WEICKHARDT: All right. Okay. Thank you.

MR PHILLIPS: Thank you.

MR WEICKHARDT: Thank you very much indeed for your submission and for your attendance.

MR PHILLIPS: A pleasure.

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

MR WEICKHARDT: Our next participant in the inquiry is Mr Warren Godson. Warren, if I could get you just to say your name and announce your position and the capacity in which you are appearing, that's fine.

MR GODSON: Yes, good morning, commissioner, and the audience. My name is Warren Godson. I'm an environmental analyst. I'm retired but I would like to thank the commission for giving me the opportunity to address this topic on waste and efficiency, and I commend the commission for raising the issue. There are three issues that I wish to discuss at this inquiry. These three issues are waste transfers, waste and treated timber and e-waste. Before I go any further I would like to make some acknowledgments to two persons that helped me; that is, Prof Sharon Bader and Anthony Amos.

So the three issues I would like to discuss are waste transfers, e-waste and treated timber. I have got to examine how the waste is managed in the life cycle of a product to enable a better economic, environmental and social outcome and also to limit waste generation, promoting better resource and recovery and resource efficiency. The second point: the role of the regulation and other factors which impede optimal resource efficiency and recovery. The third thing: the strategies that could be adopted by governments and industry to encourage optimal resource and efficiency and recovery.

So in introducing this topic I will just talk of a couple of general points. I am of the view that if we change the environment too radically the human species will disappear. I repeat: if we change the environment too radically the human species will disappear. Unsustainable consumption, as a major contributor to the greenhouse gas emissions, must be addressed as a matter of major urgency by all world governments. The urban waste problem in all Australian states is in dire need of urgent attention. The Commonwealth needs to play a leadership role in fostering better waste management.

I believe this Productivity Commission inquiry into waste generation and resource efficiency could fulfil this role and address the current failure of industry to be more responsible in providing products that have a full life cycle, cradle to grave to cradle. I just quote from issue 10 of the Inside Waste publication in Australia. Mark Glover wrote:

> Every day the Australian community commit 50,000 tonnes of material to wasteful disposal, mostly landfill. That's a footy field 20 metres high every day, grandstand height, or every footy field in the country filled every 10 years.

Now, I turn to my first point: industry waste transfer; that's solid waste.

Industry waste transfer should be of major concern to this inquiry. At present, Australian industry does not report solid waste transfers. Industry waste transfer scheme is explained, as in industry recording on, say, the National Pollutant Inventory; that's the NPI. How are they to manage this waste once it leaves the factory gate? That's the explanation. Waste transfers in industries were raised in the 2000 National Pollutant Inventory review and was rejected by the review committee. This matter was again raised in the 2005 NPI review.

I believe industry transfers must be an integral part of any successful waste resource efficiency scheme. In the UK the main industry pollution site is the UK Environmental Agency's "What's in Your Backyard?" As an example of how the UK pollutant NPI works is shown on a data sheet for a company called Darley Dale Smelter - I have an example here - which shows the full data of any waste transfer each day. These solid wastes are classified as special or non-special and the fates of the transfers of waste are indicated clearly from the industry, going to either land, landfill, recovery use, recovery and/or recycle purposes. I quote from the agency's web site. Moreover, the agency web site explains waste transfers data from transfer stations as well:

> From 1998 to 2002 site operators of waste transfer stations had to provide information on the amounts of hazardous and non-hazardous waste they transferred off each site each year. They also had to provide a breakdown of whether this was disposed of in landfill, incineration, other, or recovered as fuel, recycled or other. From 2003 a new system came in which asked operators to report the annual mass of waste they have transferred in tonnes, waste type and waste framework directed to disposal and recovery. DNR codes must break this down.

We need to gather detailed information on what type of waste is transferred and what happens to it, so that we can encourage industry to reduce the volume of waste they currently produce, use more environmentally-friendly materials and to move away from disposal to recovery techniques. It should be mandatory for Australian industries to document how the waste is disposed of, when it leaves the factory gate by means of waste transfers. Placing a record of these transfers on the NPI - that's the National Pollutant Inventory - would track how industries dispose of their waste. However, data collection is being prevented by many industries still opposing this measure, citing extra costs incurred.

Also, there is a chronic lack of funding to expand the current Commonwealth NPI to cater for additional workloads for data collection, such as the need to track what is done with the factory waste - for example, re-use, recycle or landfill. So, in conclusion, Australian industries should detail all waste transfers. We need to know where the waste from an industry polluter ends up after it leaves the factory gate. I

believe the NPI could be an effective tool to do this. So that is part 1 of my presentation.

MR WEICKHARDT: All right. Keep going and then we will come to a discussion. Thank you.

MR GODSON: The second part is in e-waste and it is a general outline to start with. A recent statement by a federal member of parliament to phase out analog - on radio, that is - to analog television sets by the year 2010 and introduce digital television was met with dismay and alarm by most of the community. At no time did this discussion address the critical issue of the already mountain of waste that has accumulated and the disposal of old analog sets that would add to this. In other words, this was not taken into account in this discussion. Across Australia there are about 45 million major appliances - whitegoods, stoves - 9 million computers, 5 million printers and 2 million scanners, household and business.

Nearly 1 million computers, expected to rise to about 1.6 million in 2006, are being sent to landfill each year, and 2.5 million major appliances are being discarded each year. The vast majority of equipment is discarded to landfill and this waste will increase exponentially as technology becomes more affordable and markets increase in size; digital TV sets, just as an example. The Environment Protection and Heritage Council - that is, the EPHC - ministers wanted advice on ways to develop a strategy for better waste management of e-waste, and so in 2002 an electronic industry products stewardship framework document was produced to try to address this critical e-waste issue, and I quote:

> The electrical and electronic infrastructure facilitation document prepared by the DEH states: "There is an increasing need to better manage and reduce waste. There is increasing pressure on landfill space, with inner Sydney landfills expected to utilise all available capacity by 2010. Components of both television and computers are hazardous and can contaminate the land and groundwater as they break down. This is becoming more prevalent as the materials break down with age."

Now, the review of current policies relating to e-waste in Australia - I will move on to that. The current policies of the National Industries Chemical and Notification Assessment Scheme - that's NICNAS - agency has exacerbated the electronics waste problem by its failure to review the continued use of brominated flame retardants - that's BFRs - in this electronic equipment. This failure to act has future ramifications, such as environmental and health problems. Moreover, the recent discovery that chlorinated flame retardants - that's CFRs - used in electrical wiring, and which have been around for about 40 years, also pose similar problems to the BFRs. A policy reversal by NICNAS is necessary.

The second point: the present extended producer responsibility - that's EPRs - schemes by both New South Wales and Victoria do not adequately address the massive amount of foreign electrical imported into Australia. Commonwealth legislation is required to include value added fees, fees for eventual disposal of the product, rated on its ability to be recycled. Now I will just turn to the European perspective. In Europe as from July 2005 some types of waste electrical and electronic equipment - they call them WEEEs - were classified as hazardous waste. This included TVs, computers and monitors. Now, as indicated, how the Europeans are addressing the e-waste issue is the directive 2002/96/EC on the European Parliament of 27 January 2003. I will quote part of it:

> The Restrictions of Use of Certain Hazardous Substances and Electrical and Electronic Equipment -

that was the title. The extract from the directive says:

> The available evidence indicates the measure on collection treatment, recycling and disposal waste, electrical and electronic equipment - WEEE - as set out in the directive 2002/96/EC of 27 January 2003 of the European Parliament and of the Council on Waste Electrical and Electronic Equipment are necessary to reduce the waste management problem linked to the heavy metals concerned and the flame retardants concerned. In spite of those measures, however, significant parts of WEEE will continue to be found in the current disposal routes. Even if the WEEE were collected separately and submitted to recycling processors, its content of mercury, cadmium, lead, chromium 6 and PBDEs and PBBs would be likely to impose risks to health or the environment.

The conclusion: that I believe the voluntary industry recycling self-regulated scheme for the computer sector has been a dismal failure. There are no short cuts for a successful national waste program. Efficient waste management schemes need to be driven and implemented by, I believe, a national environment protection measure - NEPM - for electronic products, together with the backing of tough government regulation. For example, passing on collection of reprocessing of costs of e-waste to consumers, either through the purchase price or by a recycling fee or tax at the point of sale. My view is that costs should be at the point of sale.

Moreover, the government should seek advice and consult widely with industry and consumers for a consensus prior to framing the appropriate NEPM or Commonwealth or state waste legislation on e-waste. Agencies such as the EPHC must ensure that all national standards for e-waste - for example, a NEPM - that is

introduced can be enforced at a local level. A good example of local acceptance of a waste reduction scheme is the implementation of plastic bags. This measure has readily been accepted by all or most states. Now I will come to the third one which is, I believe, very important. I will just preface my statement by saying I am going to talk about treated timber and the main focus will be on arsenic-treated timber - copper chromate arsenic.

If you use this particular product you have to have gloves, mask and goggles. I preface my statement with that. Just keep that in mind. So anybody such as a work person - the safety regulations that I have in my bag here preface that. I believe that copper chromate arsenic - I'll call it CCA - is an unsustainable product. An article in the Australian Timberman, July 2005, illustrates how the treated timber industry has set out and, I believe, succeeded to minimise any reduction in the use of arsenic-treated timber products in Australia. A quote from page 17 of the Timberman publication says:

> The Australian Timber Treaters Coordination Group set up as a lobby arm for industry players at the big end.

A further quote:

ATTCG -

that's the Australian Timberman Treaters Coordination Group -

> sharpened its teeth on the backsides of politicians when the AEPVMA bloodhounds were set loose on the CCA back in March 2005. The group came together as a need to lobby government on behalf of industry, rather than the chemical registrants.

So that's how the industry treats the affair. Unfortunately, the net effects of the treated timber industry campaign will sustain the production of very large quantities of arsenic-treated timber, resulting in long-term consequences for the environment and other areas, such as the housing construction industry, where most internal/external timbers are treated with various biocides, including the external use of CCA products and, most importantly, in the viticulture industry, where a majority of vineyard poles are used and treated with CCA products. The concerns of the effect of treated timber on the environment: the effects of CCA-treated timber on the environment result in long-term serious damage to our natural systems.

Documentary evidence shows that CCA-treated timber does leach out significant amounts of arsenic, chromate or chromium copper and copper. This is significant and has major implications for municipal solid waste dumps - MSW

landfills. The present stance of bodies such as the treated timber industry and state jurisdictions are to maintain the status quo; that is, do nothing.

I have been to a few meetings and some of the examples are: I quote from a New South Wales CRC executive to me, "There was no pressure on industry from the government to act." Another quote from the APVMA - that is the Australian Pesticides and Veterinary Medicines Authority - a scientist, in response to a question by me on the environmental downsides of CCA use in environment, and it was quoted to me, "What else can we use? What else can we use?" The NPA - the New South Wales EPR, extended producers responsibility - that's a report; they call it the EPRs - listed waste treated-timber as a priority issue, but failed to list the CCA waste as an urgent issue. It was listed well below NiCad batteries as an important issue. In Victoria the EPA paper on Towards Zero Waste also flagged waste CCA as a priority issue, but failed to address the product as a priority issue. Perhaps they may look at it in 2009 and 2010 - in other words, it was too hard.

In a letter from the South Australian environment minister to me, in relation to the management of waste treated-timbers, he said, "Treated-timber industry research and the ballot and projects undertaken with the EPA was unsuccessful. Clearly the management of CCA is technically challenging and it will be appropriate to wait for the outcome of work carried out on behalf of the Environment, Protection and Heritage Council. This will ensure that the matter is handled on a nationwide basis" - end of quote.

In a letter from the federal minister of the environment to me, in relation to CCA waste being put on the agenda of the EPHC - that is the Environment, Protection and Heritage Council - at the environment ministerial meeting he said to me, "The Waste Working Group of the EPHC discussed CCA timbers earlier this year and similar concerns to those of yours have been raised." The chair of the Waste Working Group, to the APVMA on 21 May, requested - this is the quote, "Use of and management of waste arsenic-treated timber as part of the review." The Waste Working Group is also seeking to participate in the review as it progresses. They are talking about the APVMA review which has been and gone.

The recent developments on treated timber in other countries - firstly, in Europe - European standards for wood preservation are being placed - stringent restrictions on the use of CCA-treated wood. The European Commission published a directive - and it's quite complicated - it's commission directive 2003/002/EC regarding the council directive, and this is the main one, 76/769/EEC, on 6 January 2003 in relation to restrictions on marketing and the use of arsenic. Since 30 June 2004, CCA-treated wood is not allowed for certain end uses. These measures will restrict and market the use of CCA wood preservers, as well as CCA-treated wood, particularly in domestic dwellings or where there is potential human contact. These

restrictions also apply to imported treated wood and waste wood in re-use. This is in the European context.

During 2004-05 arsenic was evaluated as an active substance in CCA and, as from 2007-08, CCA preservatives will require authorisation according to a Biocidal Products Directive - they call it BPD. In other nations such as Denmark, Finland, Germany, Japan, the Netherlands, Norway, Sweden, they have also imposed stricter regulations on use of toxic chemicals in wood preservatives. The uses range from almost total ban to restrictions on areas of use. In other words, it's the fairest way. This year directive 76/769/EEC has classified treated timber at CCA as a hazardous waste resulting in a total ban - a total ban, I repeat - from landfills. Also, the EU has placed restrictions on the use of creosote, which is another preservative. That also came into force in 2003. That's the European background.

We've got the background now for North America. In February 2003 the USA EPA announced a voluntary decision by the United States preservative timber industry to replace CCA-treated wood with new alternative wood preservatives to consumers by 31 December 2003. The USA decision affected residential uses of CCA wood, including play structures, decks, picnic tables, landscape timbers, residential fencing, patios, walkways, boardwalks and after January 2004, the EPA disallowed CCA products to be used in any of these residential uses. Industrial and agricultural uses are still under review. Disposal of wood waste in the USA context - these figures I've given here are USA figures - the amount of CCA-treated wood purchased in the USA in 2000 was estimated at about 14 million cubic metres, and about 2 million cubic metres of waste was disposed of. In the next 20 to 30 years, as a typical life cycle of treated wood, an estimate 14 million cubic metres annually of CCA-treated waste will be disposed of, or have to be found and disposed of.

In the year 2000 the amount of CCA wood purchased in Florida was 1 million cubic metres, which corresponds to 1500 metric tonnes of arsenic. That is arsenic. The amount of waste CCA-treated wood disposed of is approximately 0.1 million cubic metres, which equates to about 100 metric tonnes of arsenic they have to get rid of. The amount of CCA wood sold in the state of Florida since early 1996 is estimated at 26,000 metric tonnes of arsenic. This is from Townsend 2001, et al Townsend. This huge quantity of arsenic is very significant and will have a long-term impact on the environment - that is, to contaminate groundwater - if the wood waste is not properly disposed of. The primary disposal path of CCA-treated wood in the USA and Florida is through C and D - or construction, demolition and recycling facilities. The C and D landfills are generally unlined and recently research has shown that CCA-treated wood waste exceeds leaking guidelines. Recent studies indicate that CCA-treated wood should not be disposed of in MSWs - that is, municipal solid waste - unlined landfills - and the question of a current USA EPA exemptions which permits the disposal of CCA-treated wood within landfills,

as long as the wood is disposed of by the end use, so there are some exemptions.

Recycling in the USA: contaminated wood fuel happens and is of concern when recycling because you get emissions due to incineration, and an accumulation of high concentrations of ash due to toxic heavy metals from the wood ash. They are considered a very hazardous waste. It has the potential to have dioxin emissions from the bottom ash in the combustion phase between 250 and 400 degrees Celsius. Also, recycling in the USA, they have looked at mulch in Florida. They used C and D wood waste in the mulch industry but it has resulted in - there is a high probability of such wood waste being contaminated with CCA. Recycled C and D wood waste enables CCA-treated wood to be applied to soils throughout the state, thereby increasing the potential contamination of the environment - that is, the soil - with high levels of arsenic, chromium and cadmium - and copper. Sorry, it's arsenic, chromium and copper.

Now, I turn to Australia, which is probably our main focus. In Australia - - -

MR WEICKHARDT: You should assume I've read your submission. It is on the public record.

MR GODSON: No, but this is different.

MR WEICKHARDT: Okay, but I'm just conscious of the time and I - - -

MR GODSON: I was told I had half an hour.

MR WEICKHARDT: You have had half an hour already.

MR GODSON: I'm sorry, I haven't. Come on.

MR WEICKHARDT: I think, by my clock, you have. Anyway, if you can leave enough time - - -

MR GODSON: I would like to make a protest here, because I asked the gentleman then. I said - - -

MR WEICKHARDT: Sorry, you've had 25 minutes. Okay.

MR GODSON: My clock says seven minutes past 12.

MR WEICKHARDT: Yes, and I put you down as starting at 11.40.

MR GODSON: Pardon?

MR WEICKHARDT: 11.40 is when you started.

MR GODSON: We had a break then. Look, I don't want to argue with the commission. Look, this is just - I haven't - this is just not fair.

MR WEICKHARDT: Well, keep going, but I'm just asking you to leave enough time so I can ask you some questions, please.

MR GODSON: Okay. Can I go ahead?

MR WEICKHARDT: Yes.

MR GODSON: Right. Now, I'm talking about Australia. The Australian Pesticides and Medicines Authority recommended in 2005, in regard to CCA products, to take effect in the 31/3/2006. However, these recommendations were limited to certain CCA products - children's play equipment, decking, handrails, picnic tables. No other CCA products were notified as a restricted product. In Australia annual use of treated timber is estimated at 6500 tonnes per annum. That's from APVMA figures. There is a composition of 34 per cent arsenic content with timber products.

MR WEICKHARDT: Can I just say that that figure of 34 per cent can't be right. Treated timber doesn't have 34 per cent by weight of arsenic in it.

MR GODSON: Well, I'll delete that - a composition of a high level of arsenic.

MR WEICKHARDT: I think if you look at the statistics you quoted from the United States about the amount of arsenic that goes into treated timber and the volume of treated timber sold, I think it is 0.2 per cent. I am not disputing that it is not an issue, but 30 per cent is just a number that couldn't be right.

MR GODSON: All right. That's okay. I'll just put a composition of arsenic. Would that be okay?

MR WEICKHARDT: Yes, sure.

MR GODSON: I'm glad to, yes. The result is about 1000 tonnes of arsenic is put into the Australian environment each year. The life cycle of CCA timber is estimated at 30 to 50 years - we have an enormous long-term environmental problem of improper disposal of CCA-treated timber waste. Why are these concerns about CCA waste in Australia? The waste of Australia is enormous. There are already large amounts of waste CCA-treated timber being produced annually in Australia and

overseas. A major source in Australia is the wine industry. In South Australia alone it's estimated that by 2030, 160 million cubic metres per annum will be required to be disposed of, and the cheapest option by far of disposal of treated timber waste is still landfill. The disposal cost is about $45 to $50 per tonne. I think you have heard that in a previous discussion.

South Australian experience: in 1999 in South Australia over 100,000 cubic metres of round wood was disposed per annum; 63,000 cubic metres of other products with a total product figure of 230,000 cubic metres of treated timber, produced 30 per cent which was sold interstate. In other words, 30 per cent of product was sold interstate. Currently SA has huge stockpiles of waste treated-timber, a major contributor into the growing bottleneck in vineyards where up to 15 to 20 per cent of treated poles are damaged per annum. This result has been estimated at 400,000 waste CCA posts, which is the equivalent to 10,000 cubic metres locally and national estimates total about 80,000 waste-CCA posts added with another 300,000 creosote posts, makes this waste an issue of national concern. There was significant financial treated timber used as trellis posts in established vineyards.

In 1999 a report prepared by the South Australian EPA found that wineries were the largest purchasers of preservative-treated timbers in South Australia, mostly CCA-treated timber. Estimates based on the ABS stats of the area of vines planted indicate there are between 60 and 120 million posts currently used for trellising in Australian vineyards. Approximately 75 per cent were treated timber posts. The growth of the wine industry in South Australia is paralleled by the increase in CCA-manufacture since annual state damage is around 15 to 20 per cent and it is anticipated that in 2024 a peak of between 8 million and 16 million posts will be required to be disposed of. That is cited from Smith and Mollah 2004. There are already 816,000 posts stockpiled - that is from Bell 2005.

A treated timber disposal crisis is already being experienced in California, at a place called San Joaquin where grape growers return to their crops after several seasons - "We moved thousands of tonnes of CCA stakes." The presenter - that's me - notes the recent downturn in the Australian wine industry, highlighted by newspaper headlines "Wine firms struggle after costly errors", will exacerbate the disposal of large volumes of CCA poles for landfill. Even if CCA were banned today, there would still be treated timber in the waste stream for the next 10 to 25 years. That's from Matthew Warnken, 2004. I ask you: can we continue to produce a treated-timber product - CCA - which has no identified end life?

I want to turn to re-use of CCA products to give - in the UK an environmental consulting firm analysed wood waste streams and found re-use marketing for wood waste was limited, and the risk of contamination was also cited as a major barrier. In the USA, Florida, waste treated-timber was prohibited from cogeneration plants

because - as a result of heavy metals in the ash. As a result the waste was then diverted to mulch production, raising the risk of soil and groundwater leaching - Solo-Gabriel et al, 2001. Studies in the USA found leachate from the mulch, manufacture and construction and demolition of waste, which often contains waste CCA timber, failed water quality standards set by the US EPA - Townsend 2001. The CSIRO highlights the potential use for CCA-treated timber as garden edging and fencework, but it warns against use of CCA-treated products being re-used as mulch, animal bedding, beehives, as well as food chopping boards, et cetera - CSIRO 2005.

Recycling of waste treated-timber as a secondary fuel: it was found that CCA waste has limited potential for re-use in kilns. However, heavy metals - such as arsenic, chromium - content limits most processes. Also, the collection of size, reduction and contaminant removal can result in high cost structures. In conclusion, the use of waste treated-timber does not address the health and environmental problems associated with the use of CCA-treated timber, because it prolongs its use.

Disposal: is the end in sight for CCA? There is no life cycle in place for CCA-treated timbers and the waste product is highly toxic, containing heavy metals - arsenic, a broad-acting carcinogen, and chromium. How to dispose of treated timber? It's a vexing question. The chemicals used for treating waste wood copper chromate are designed to kill and repel biological organisms, so it is a reasonable assumption that its disposal could pose environmental health risk.

Is landfilling safe? Environmental responsibility for disposal of waste should be a paramount fact in any landfill practice. However, in many cases state jurisdictions have ignored the precautional principle and continue to dispose of arsenic-treated products in landfill sites. Most state jurisdictions are still promoting landfill of CCA wood as the only environmentally acceptable disposal option. The problem is that landfills are filling up and that's limited air space. Tremendous quantities of CCA wood will be coming out of service over the coming decades. I must emphasise that. As expensive, lined municipal landfills near their capacity, there is increasing pressure to keep bulky CCA waste - and it is high volume, CCA waste - out, sending it instead to less expensive unlined C and D landfill. These unlined landfills may not adequately protect the groundwater and aquifers from contaminants in CCA wood.

Incineration: CCA-treated wood should not be burnt, even in state-of-the-art incinerations, as the heavy metals in CCAs are not destroyed. The copper, chrome and arsenic heavy metals are concentrated in ash and are classed as a hazardous waste. If incineration is contemplated, it is difficult to get permits, especially for CCA. There is arsenic in ash and fluoro-gaseous problems and the high cost of collection - that's the ambient air I'm talking about. Conclusion: the bottom line for CCA-treated wood is that, other than limited re-use, there are currently no acceptable

alternatives to landfilling in Australia. There is presently no national method in place which is acceptable by state jurisdictions for the safe disposal of CCA-treated timber.

The Australian Pesticides and Veterinary Medicines Authority - that's the APVMA - who regulate the chemicals used in CCA-treated products, in March 2005 introduced new recommendations for the use of CCA products to be enacted by March 2006. However, these recommendations are not enforceable and each state is able to interpret these recommendations differently, the result being lack of uniformity by the states to implement the APVMA's recommendations, which will not be met, I believe, by March 2006.

Since its inception, the ministerial council has been effective in focusing on waste of concern. This national approach saw significant successes and a national environment protection measure related to ambient air quality. I believe that councils should investigate a new NEPM for waste treated-timber to include waste CCA. Local jurisdictions' role would then be able to provide appropriate legislation to regulate these waste treated-timbers such as CCA which the APVMA at present cannot do. Given these disposal-related concerns, the only viable solution is to phase out the use of CCA wood in favour of preservative-treated timber that offer a better recycle option. CCA-treated wood is already outlawed in several European countries. I've just got one or two to go - commissioner, can I go on, please, with just some of the alternatives?

MR WEICKHARDT: You've now had 35 minutes. We allocated 30 minutes and I haven't had a single question. You can go on, but I have no time left for questions. There are two other people who wish to appear.

MR GODSON: I'm sorry, I was - can I go on or can't I?

MR WEICKHARDT: You can have another five minutes but that's absolutely it, I'm afraid. I have to make time for other people.

MR GODSON: Just before I go on I want to make a point. I want it recorded. I rang up on the telephone and was told that four people were presenting. I was told at quarter to thing and there was no-one after me. All I did, I got an idea I had a half an hour. I don't know what time we've got left but I'm saying to you, I wasn't given the point where I was going to be asked by the commission this way. I'm quite disappointed that as a private citizen that it is approached in this manner, and I want it recorded.

MR WEICKHARDT: I'm sorry. I'd like to record that you've had 35 minutes.

MR GODSON: That's okay, but still you could have told me beforehand what I had. I'm quite disappointed because I'm a private citizen and I think that it's just not fair.

MR WEICKHARDT: I thought you were advised you had 30 minutes.

MR GODSON: Can I go on or can't I?

MR WEICKHARDT: Yes, you can.

MR GODSON: I've come over 80 kilometres to do this and I'm not going to stop. Alternatives to CCA-treated timber: there are alternatives and I'll be very quick. Natural wood - you can use natural wood but the major problem is over-exploitation of native forest. Australia has a situation where we remove the old-growth forest. Most durable plantation species grown in Australia are for woodchip and not sawn timber. Current planting of blue gum plantations for fence posts does give an opportunity for that type of timber to be used, for example, for poles for vineyards.

In vineyard replacement poles - they've actually discussed this in the vineyard industry, but they've only come up with precast concrete, old rails, steel lines, plastic and other material which have been used for trellis posts. Some of these posts are suitable replacement for treated timber. Recent discussions I've had with SA EPA, CSIRO and other interested parties indicate little or no progress has been made in finding replacements for CCA poles. One option being trialled is a plastic sheet pole. While CCA poles remain a cheap product with low disposal costs, landfill will continue to be the preferred option: in other words, business as usual.

Natural preservatives: there are real concerns about existing CCA and you can use other types of biocides found in wood and plant material. There are a number of other plant materials, such as resin, and plants that are found to have anti-termite and anti-fungal material. Resin from these shrubs has been shown to be useful for both preserve and decay and fire-retardant agent.

The Australian perspective: we have an Australian perspective which I think we should be able to examine. The ABC news item had a report from a scientist discovering a new way of killing and repelling termites. A team from the University of Western Sydney have discovered - Prof Robert Spooner-Hart said the Australian plant often mistakenly thought to be of the sandalwood family was growing around a fence post. Prof Hart said it would be a couple of years before a pesticide will be available on the market:

> Now we know what the chemistry is, we are going down that track to synthesise the compounds. Once we have synthesised them, we can use

them to incorporate directly into the wood in the same way that you use things like copper chrome arsenate to impregnate pinus, which is normal wood used.

In other words, they've found a product which is growing right in our country which is a possible replacement for some of these toxic products. There are non-biocidal products which use physical treatments, like heat, which can permanently alter the structure or the composition of the wood. You can use hydrothermic plasticisation of wood and modification of wood by polymers.

In concluding, further studies from both federal and state jurisdictions should support the use of alternative environmental friendly wood preservatives. This replacement product for copper chromate arsenic, a highly toxic product, would minimise the CCA waste streams to landfill and thus reduce the amount of arsenic leaching into our soils. Alternative preservatives should have no heavy metals, lower emissions; they would have no waste problems.

Prior to any adoption of alternative biocides, assurances should be provided that these alternatives are less harmful to humans and the environment than the toxic chemicals found in CCA. Given the fact that these alternatives do not contain arsenic, a highly toxic metal to humans, these replacement alternatives will likely represent a lower health threat than CCA. The effects of CCA will be observed in the disposal stream long after the typical service of CCA products, which is roughly 25 to 40 years. Better waste minimisation, improved disposal methods and better management practice will be needed to assist in disposal of CCA within the short term - 25 to 40 years - due to the present large inventory of CCAs that are currently in service.

To do the waste sorting, we use new automated CCA disposal strategies, such as the Niton XRF portable analysers. These new technologies should be explored further to be implemented in full-scale operation to validate the fine-tuning and efficient wood-waste sorting. In other words, wood-waste sorting and contamination is a big problem. Even if you want to use a wood-waste product, you have contamination with CCA. I believe reducing the impact of waste CCA-treated wood on the environment must be a priority of this Productivity Commission.

MR WEICKHARDT: Thank you very much indeed for your submission and presentation.

MR GODSON: This submission is different to the one I put in.

MR WEICKHARDT: Okay, thank you. You might also be interested in reading the transcript from the first person that appeared this morning, who did make some

comment about disposal of CCAs.

MR GODSON: Yes, I'm well up to speed with that. I know exactly what his presentation says, believe me.

MR WEICKHARDT: All right. Thank you very much indeed.

MR WEICKHARDT: Now we have two other participants who wish to appear: Mr Peter Wadewitz and Mr Steve Marshall.

MR WADEWITZ: Commissioner, firstly we'd like to apologise. We did a tandem here. We both thought that we'd both the submission in. I thought he did and he thought I did, so we apologise for that. Steve would like to talk through some of the issues in the composting industry, from Compost SA.

MR WEICKHARDT: All right, if you could just give me your names, organisation and positions, that would be helpful.

MR MARSHALL: My name is Stephen Marshall. I'm a direction of the Jeffries group as well as chairman of Compost SA. Peter Wadewitz is the managing director of Peats Soil and on the committee for Compost SA as well as being the national chairman of Compost Australia. We make this submission on behalf of Compost SA, which is the peak recycled organics industry association here in South Australia and is a subset of the Waste Management Association of Australia. We would like to start by strongly endorsing the formal submission that Compost Australia made on behalf of our industry to the Productivity Commission's inquiry into the waste industry. We don't want to duplicate what they've already submitted but we do want to strongly support what they've put in and just raise one or two other points for consideration.

The main point we make is with regard to infrastructure. We believe that our governments have set goals in terms of recycling and in terms of removing resource from our landfill. To do that you need to have infrastructure and at the moment that infrastructure is by and large provided by the private sector. What you would know from the Compost Australia submission is that we have a reasonably fragile industry sector, one that is really struggling with the whole concept of viability at the moment. I suppose we see here that there is a disconnect between government and community objectives in terms of recycling. The infrastructure that's required for that and who is actually going to provide for it is the basis of this very short submission, which just runs through a series of dot points.

In the submission it says both the requirements of removing resource from landfill and recycling require organic recycling infrastructure. In Australia this infrastructure has been provided by the private sector. Internationally we see quite the reverse in our industry, with most organic recycling infrastructure being provided by government. We could go into why that has occurred overseas but that is the case. At the moment, the organic recyclers across Australia are generally unviable with many unable to sell processed material. Stockpiles of end product are massively increasing around the country. For us to remain viable, there needs to be an equilibrium between the processing

You would ask the question very seriously as to what end are we producing products such as this for packaging. It doesn't appear to have any significant advantage over a conventional ice-cream container with a plastic lid and a plastic bottom, both of which are recyclable. It may have market advantage, but it certainly doesn't have an environmental advantage. Yet, if we go down to my final exhibit - which is this little container here - this is from my local little Chinese takeaway and, of course, very nicely both of them are appropriately located and so on. I just argue that if a little local Chinese takeaway can be environmentally responsible, surely it is not asking too much of the major, multinational companies operating in this country, to also be equally responsible.

If we look at the next issue, it is again looking at the economic issue. That is that simply there is a complete lack of the cost of disposal included in the price of any product. I'm not sure, but I think from recollection we have the concept of public goods but waste management is not technically a public good because people pay for it in their rates. However, at this point in time, there is no force being directed by the marketplace in any way, shape or form, as to the cost of disposing of products which are acquired by the household. Because waste management is collectivised and then just distributed on the basis of property value, the people who actually acquire product have no idea of what the cost of disposing of that product is and, in fact, often are not even paying for the cost of the disposal of that product. It is being subsidised generally by other people in the community. They are the people who pay their rates and for which things subsequently go on and flow on.

There is a clear argument that if products are not fully costed during the full life cycle, including a provision for the disposal costs, that there cannot be any market factor applying to that product at the time of purchase. If we were paying a certain levy per tonne for the packaging materials, for instance, or for the cost of disposal of the product which is not recyclable, that would have a bearing on the marketplace on product selection, presumably in the longer term a significant differential between the cost of what is being purchased for something that has to be thrown away, as opposed to something that can be recycled.

It argues, therefore, the case for a levy on non-recyclable items, so that if you like the cost of the disposal of the product is fully costed at the time of purchase in the consumer's mind. That levy, of course, to be subsequently then applied to the eventual disposal of that product at some time in the future. I just missed my little point on - just to conclude this one: it is interesting to note - and I can only go so from my reading rather than what I drive because, as you can see, I tend to drive a bicycle rather than a Mercedes-Benz or a BMW. I'm advised that all German-made vehicles are now being marked as to the nature of their composition of the products which are going into them, and it would seem to make a great deal of sense,

extending that argument, that all materials should have some sort of marking on them to identify what the material is and whether it is, in fact, a recyclable or non-recyclable material. Certainly if German car manufacturers can appropriately label the components of their products with the right composition indications, then surely Australian car manufacturers can do exactly the same thing. It goes back again to adopting international best practice.

The next one is really the issue of the failure to apply adequate resources at the avoidance level. If we follow that lovely little triangle that you've got, the Victorian model, which needs seven steps - because here in South Australia we only have three - but that's all right; they're Victorians and they're allowed to do those sorts of things. But the first component obviously is avoidance or waste reduction and yet, at a national level, there is no clear commitment by the federal government to a program of education, whether at a communal level or, alternatively, at the school level. I would argue that there is clear need for education programs. I would much rather watch advertising design to reduce waste management, than advertising which thumps on about some government initiative or design for electoral purposes, than for anything else. The government clearly has a responsibility to assist in the education programs. We do in South Australia have the fortunate position of having an organisation like KESAB, but again their issues are more litter-related than they are towards educating people about the appropriate way of doing things.

Following on from that, if we look at a situation we have in Burnside - we are currently subject to a state strategic plan which looks at a 75 per cent reduction in the volume of waste going to landfill by the year 2010, I think, from recollection - it could be 2015. That is a state target that has been imposed on us by the state government. We are trialing, on a statewide basis, a product called a biobasket which is simply a cellulose decompositional bag which is going to go inside a little plastic bin, about the same size as this, into which you throw your food scraps. The initial feedback on it is interesting in the sense that we've acquired about a 60 per cent participation rate from people in the trial who are being given free bags, and it's running over a three-month period. It actually increases to about a 70 per cent participation rate, given those bags are subsequently disposed of in green waste.

Jeffries, who were just on before me, are actually then running a compost trial on composting those food scraps. The system is already in existence in two European countries, I understand, of which Sweden is one. However, the problem with it is, of course, the cost. We were talking before about the marginal cost and the gains, which would be gained in terms of CDL legislation, but in this case we estimate the cost of a biobasket will add $540,000 a year to our budget, requiring a rate increase of about 3 and a half per cent which is clearly going to mean that it is - without significant subsidy - I would think beyond the resources of our current total

budget which is about $25 million. The incremental gain is just not worth the investment at this point in time, given that there are a number of other issues as well, which are associated with the trial.

It indicates how difficult it will be to meet some of these targets which are being set without a significant economic impact on local government. It is all well and good for both state and national governments to set trial and compliance requirements for waste from landfill, but it is going to be a major challenge. However, that said, listening to the people in a local government perspective there are some things which clearly stand out: recycled plastic posts are now currently available out in the marketplace and it may well be that there are means of incentives which can be offered in order to use them as a replacement for CCA and similarly treated products. Again, that can be a national initiative looking at trying to minimise the creation of these sorts of products in the first place.

We need a national program on composting, surprisingly enough - not done in a commercial sense, but in a home sense. If again the issue is about reduction or avoidance of creating waste in the first place, surely the best place to do that is actually in an in-home situation where the same food scraps that are going to cost my residents 3 and a half per cent could just as easily be put in a compost bin and disposed of at minimal cost. That is not to say that the council itself - because it is going to avoid the cost of disposal - cannot apply some degree of subsidy to that process, and that would only make sense in a strict economic sense, but equally that there could not be other subsidies designed to both (a) encourage the uptake of home composting and (b) to educate people on how best to do it. Those strike me as national initiatives. How you manage a compost bin in South Australia isn't terribly different to how it's managed anywhere else, one would hope. It's just an educational process.

Why shouldn't our schools have a national, uniform program of teaching children how to compost? It is a life skill and one which would clearly lend itself to a national education program. It is interesting to hear the comments - and I could understand the first people's concerns about the failure of local government to take up recycled materials in their road construction tenders and certainly that is one I'll be taking back to my own council to make sure that where possible we are doing so. But it also struck me that if you are using recycled materials in concrete, there is a huge industry there obviously in pouring housing slabs which require large amounts of it, and there should be at least some recommendation within our planning and building processes which encourage the uptake of recycled materials, whether it be in concrete or alternatively in timbers or something along that line. Again, rather than reinvent the wheel in every council nationally, that could be something that could be undertaken on a national basis and then simply using the councils as the distribution mechanism for the information.

The butt-out bins - and again, clearly, if cigarette butts are our biggest single contributor to the waste in the litter stream, then there needs to be a national program whereby butt-out bins are attached to every other larger bin throughout the nation in order to at least provide some sort of receptacle. That can be done by way of subsidy, by way of reward grants when a project is done, but obviously is one which could help address that issue. We talked about the unpriced externalities of failing to actually include the cost of disposal in the cost of materials.

It was interesting to note, though, that in terms of CDL deposit legislation, traditionally the price point of the deposit has been higher than the otherwise non-deposit material received in other states. My last recollection was - and please don't take it as being an accurate because it would need to be updated - is that whilst we receive five cents a can in South Australia, the actual raw material price is about two and a half cents a can. Therefore whilst, yes, you do get some diversion by people taking them back for refund, as a means of subsidising the recycling system, it has proved a very valuable component, simply because it guarantees us a fixed return on each of those items which then provides the financial backbone you can then go on with to use to apply to the rest of your recycling system which doesn't have that same degree of price predicability or, in fact, guarantee of refund.

Finally, the issue came out of e-waste and similar sorts of things: while we, as a council, run an annual hard waste collection which proves enormously popular across the entire City of Adelaide for people to come and visit us to collect the things that people throw out, and clearly is a great social initiative in terms of redistribution of wealth, because being a more affluent community we tend to throw out the more highly priced things - it still struck me that within every significant product, there should be a national disposal telephone number attached to it. That is a 13-type number, where people can simply call up - 132277 - and be given the name of their nearest convenient disposal outlet, whether it be for computer materials, whether it be for whitegoods, or anything else of significance. It struck me that that would be an enormous national resource applied right across the nation, and would help address that problem of lack of information, if simply the disposal number became embedded in people's minds as to how they call in order to get rid of it, or to know where.

There were some very interesting things being tried in the US, which is a council-funded web site which actually functions as a mini eBay, for want of description, except no money changes hands, but again it is a possibility to test and pilot within local government to actually establish such assistance, and it's as simple as somebody has an item that they want to get rid of and they simply put it on the web site and people look at it and say, "Oh, yes. I'll go and grab that." It's not a financial transaction but it is certainly a way of, once again, reducing and minimising waste. There may be the capacity again to pilot something like that in local

government which can be simply recopied through every server in every local government authority across the nation.

So thank you for your time. I think that has just about covered all the little, quick notes that I have made in my brief period of time, to try and come up with, I think, some of the inputs that local government would like to have. It is now national local government policy to coordinate it that way, that all materials should be appropriately labelled and packaged. It is also national local government policy that in a year's time we will start to campaign actively against those people who are not appropriately labelling their materials. At the end of the day there is local government that is bearing the cost of waste management in this country, and I think it's probably fair that we take some control back if the state and federal governments are unwilling to show the leadership that is necessary.

Otherwise we will just continue to have escalating piles of waste. The Victorians were last week bemoaning how totally unsuccessful CDL is, despite the fact that we have far greater levels of retrieval on these sorts of products than they have, but clearly in their state the level of waste is still escalating, the amount of waste going into landfill is still escalating and one of the great challenges that we have as a nation is to turn that corner that is going to say we can start heading downwards. Education, as you will have heard earlier, is clearly the key. We need to try some innovative approaches. Some of them will work; some of them won't, but we do need to start taking those actions now so that future generations will enjoy the same sorts of lifestyle that we have today. Thank you.

MR WEICKHARDT: Thank you very much indeed, Jim. You have made some very interesting points. I guess one comment and then some questions. The issue about identification of what is recyclable and what is not, and one of the issues that has been described to us in one of the visits we made is that some plastic products are technically quite recyclable and so a recyclable number can be on the bottom. That doesn't mean to say that necessarily there is a cost-effective mechanism of doing that in that particular locality.

MR JACOBSEN: That's perfectly correct, yes.

MR WEICKHARDT: So the numbers lead people to believe that, yes, this is recyclable, but some of that product actually ends up still going to landfill in Australia, which is, I guess, an issue that we still have to grapple with. The other issue that is relevant is that there is a real scale effect in terms of being able to properly treat and recycle some things, particularly e-waste. One of the interesting and rather perverse dilemmas is that, for good reasons, the Basel Convention was introduced to stop countries exporting noxious waste to perhaps less developed countries.

Yet we were told of a famous and perhaps apocryphal case where a fairly sophisticated recycling facility for printers was established in Singapore, I think, by one of the leading manufacturers, and that was to be the South-East Asian centre for recycling these products efficiently and effectively, with lots of investment and automation - capital investment. When they started to collect these printers and send them to Singapore, customs said, "Unless you can prove every one of these printers still works we will condemn this container as being waste and you can't export it." So this company, having gone to the difficulty of trying to assemble and collect these printers and do the right thing with them, ended up putting them in landfill. So there are some unfortunate, perverse outcomes of some well-meaning legislation in this world.

MR JACOBSEN: We are dealing with waste management, which always is full of perversities, but the reality is that you do things which are in the general interest of the majority. Whilst you are perfectly correct in saying - and one only needs to drive across the Nullarbor, particularly after a bushfire, to see the ineconomies of waste removal. It never ceases to astound me that once you get across the South Australian border, where CDL runs out, you see this huge stream of stubbies running down the side of the road - very good road markers down the side of the road through Western Australia, because they have no financial mechanism for doing so.

That was the last time I drove there. I am sure they have probably walked down and picked every one of them up now. But you don't stop having a CDL program simply because there are one or two places where it is not economically viable for you to do so. In fact, Western Australia have now taken that approach themselves, I understand, and are about ready to legislate for their own CDL program. That is to be highly commended. There are places in South Australia where clearly it does not pay to recycle, in a strictly economic sense, and then the decision is largely a social and political one, of "Well, do we do it anyway in the interests of the environment?" and whatever reasons you want to put on it.

But if you don't have the systems in place to make it happen in the first place in those areas where it is economically reasonable to do so, then there won't be any incentive to do so in those areas where it is not, whether it be for the other reasons of social and environmental benefit. In terms of legislation, you are right. Sometimes we do pass terrible legislation and agree to terrible things, but again that doesn't mean that we shouldn't try and when we do encounter those legislative areas, that we don't act quickly to remove them where there is obviously a legitimate reason to do so. To not send material to a well-equipped plant located in another country, irrespective of where it is located, is foolhardy in the extreme, but understandable, given the circumstances that were going on throughout the region.

MR WEICKHARDT: All right. Thank you very much indeed.

MR JACOBSEN: Thank you.

MR WEICKHARDT: Sorry, I was about to say ladies and gentlemen, that concludes the scheduled proceedings. For the record, is there anyone else who wants to appear before the commission? Thank you.

MR McDONAGH: Graham McDonagh - I was an earlier speaker and I have asked just to speak again for a moment after the presentation by the honourable councillor there, because I may be able to assist him and also this commission in talking about what plastics are recyclable. There are a number of plastics that the councillor produced on the table here as to whether they are recyclable or not and I am pleased to tell him that every one of them is. The reason is because they are a thermoplastic. There are two families of plastic - thermoset and thermoplastic - and 90 per cent of all plastics that we see today are thermoplastics, which can be recycled. The little numbers on the back actually tell us the type of plastics so whilst we have two families we then have the types of plastic within each family.

So really, 95 per cent of all plastic that is produced can be recycled. 100 per cent of all plastic produced can be recycled with the use of pyrolysis. There is a great deal of work, and an earlier speaker who was talking about PVTs and so forth and some of those carcinogenics - pyrolysis actually does destroy them. So it's a pretty interesting concept and there has been a lot of work done overseas on it, but I just wanted to mention the point that all materials, really, that come out of the retail sector can be. I thought it was an excellent idea but if there was a repository where they should go to, at least the easy and valuable recyclables can be sorted by people who know what they are doing.

Then, perhaps, if the rest was put in a landfill which only contained plastic, I have no doubt it would be used in later years. It's a biomass. I mean, it has oil and other valuable material. So that's what I thought I would be able to add to this, after listening to - - -

MR WEICKHARDT: Thank you very much indeed. Thank you. All right. Well, that concludes the hearings in South Australia, unless there is anyone else who wishes to make a further comment. I hereby adjourn these proceedings and the hearings will resume in Brisbane on Monday. Thank you.

AT 1.10 PM THE INQUIRY WAS ADJOURNED UNTIL
MONDAY, 27 FEBRUARY 2006

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