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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 PERTH ON THURSDAY, 2 MARCH 2006, AT 9.03 AM

Continued from 1/3/06 in Sydney

MR WEICKHARDT: Good morning, ladies and gentlemen. Welcome to the public hearing into the Productivity Commission Inquiry into Waste Generation and Resource Efficiency. My name is Philip Weickhardt and I am the presiding commissioner for 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, construction and demolition wastes.

We have already talked to a range of organisations and individuals with an interest in these issues. Submissions have been coming into the inquiry following the release of an issues paper in December and I think we are now over 100 and counting. We're grateful to the many organisations and individuals who have already participated in the inquiry. The purpose of these hearings is to provide an opportunity for interested parties to discuss their submissions and their views on the public record. We have already had hearings in Canberra, Melbourne, Adelaide, Brisbane and Sydney. Following this hearing in Perth and another in Melbourne we will begin working towards completing a draft report for government by the end of May.

The draft report will consider all the evidence presented at the hearings and in submissions as well as other relevant information. Participants in the inquiry will automatically receive a copy of the draft report. We like to conduct all hearings in a reasonably informal manner but I remind participants that a full transcript is being taken. For this reason comments from the floor cannot be taken but at the end of the proceedings for the day I will provide an opportunity for anyone wishing to do so make a brief presentation.

Participants are not required to take an oath but are required under the Productivity Commission Act to be truthful in their remarks. Participants are welcome to comment on the issues raised in other submissions or by other speakers here today. The transcript will be made available to participants and will be available from the commission's web site following the hearings. Copies may also be purchased using an order form available from the staff here today. Submissions are also available on the web site or by order form.

To comply with the requirements in the Commonwealth Occupational Health and Safety Legislation, and more importantly for your own and my safety, I draw your attention to the fire exits, evacuation procedures and assembly points. The main fire exit is out of this door and across to the right and the assembly point I understand is around the corner at the Wesley Church.

MR PARKE: It's around that way.

MR WEICKHARDT: Around that way, is it? Thank you, around to the right, the Wesley Church. The alert sign in this hotel, there is a beep, beep alarm, and there will be a loud speaker call advising on action and the evacuation alarm is a "whoop, whoop, whoop" alarm. The toilets are downstairs. Can I ask the audience to either please turn off your mobile phones or to turn them to silent mode and I would now like to welcome Mr Bernard Ryan and Mr Michael Reid from the Western Australian Local Government Association Municipal Waste Advisory Council. If I could ask you to introduce yourself and give your formal titles and organisation just for the record, please.

MR RYAN: Thank you. Yes, my name is Bernard Ryan. I'm the manager for Waste and Recycling at the WA Local Government Association and the executive officer to the Municipal Waste Advisory Council which is the association's peak body for dealing with waste management. We have a number of other areas of activity that are covered through different policy portfolios.

MR WEICKHARDT: The microphone is not for amplification. It's for the transcript.

MR RYAN: All right.

MR WEICKHARDT: All you do by tapping it is give her a headache.

MR RYAN: My apologies for that.

MR REID: My name is Michael Reid and I'm a waste policy officer employed by WA Local Government Association and I am answerable to, I guess, the Municipal Waste Advisory Council under Bernard's supervision.

MR WEICKHARDT: Thank you. Thank you, I should say at the outset, for your submission. I have to say it is easily the clearest and most rigorously argued of the submissions pro the sort of waste minimisation resource recovery resource depletion area. I mean, this is a critical part of this inquiry and I'm grateful for the work you have put into this. I have a large number of questions about it but I am very grateful for the way you have set that out.

MR RYAN: Good.

MR WEICKHARDT: If you want to make some sort of introductory remarks please do so. We have set aside about 55 minutes for this discussion so hopefully we will get lots of chance for questions and answers.

MR RYAN: Indeed, and I understand we had about 15 minutes to make just a brief presentation.

MR WEICKHARDT: Yes.

MR RYAN: I will take your opportunity to provide an introduction and, firstly, lodge the apologies of the president and the CEO of the association who are unable to be here today in person to present as they're at an annual local government non-metropolitan meeting which only happens once a year and it happens to be in Geraldton today so a little difficult for them to be here but they did express their disappointment at not being able to be here and they stressed that they thought that this inquiry is a very important step forward for the Australian community on waste and recycling-related issues so it holds the weight of the association and by no means by delegation to myself and Michael, that doesn't hold any less weight than the association would give to it.

Consistent with the views expressed in the discussion paper, the Municipal Waste Advisory Council and the association have worked closely with local governments in the sector to develop and refine the arguments in our submission so as not to have multiple submissions covering the same issue. There have been a number of working groups and communications, both informal comments from individuals, taking into account in developing the submissions so, as you pointed out at the beginning, there's a fair bit of detail and rigour in that process and that has been drawn, not only from ourselves, but largely from our members as well, so it's a good representative set of arguments, if you like, on behalf of our industry. That is not to say that there are individuals within that group that take different standpoints on particular issues.

Our intention today in providing an oral submission is to highlight the most important aspects of the written submission and you note that it is fairly detailed and so we would like to highlight and focus in on the things that we think are important to look at and we're looking forward to answering questions as you acknowledged relating to the various arguments in that, so if we could go to the first slide. I think the first point that we want to make is that the Australian community expects us to pursue their values as local government representatives and one of those important values is clearly sustainability. We recognise that aspects of that are beyond the terms of reference of this inquiry but nonetheless the task with which we are given by our communities is to represent their views so it is difficult for us to argue effectively without bringing to bear that issue of sustainability.

Sustainability entails outcomes that are sufficiently important, we believe, that the market alone shouldn't determine the final result and we would offer as examples of reasons for that significant uncertainties in various areas, the potential for irreversible effects and processes; the potential for extremely large threats to come from a series of small actions through economic and market-driven responses and the intergenerational effects that may occur without a concurrent intergenerational

participation in decisions and transactions.

As an example of this concept of moving beyond the immediate market-based approach I suppose we look to things such as health and education and security where outcomes are planned for and are not simply left to the market to deliver in respect of that so we would offer those. Certainly in the area of health and waste management there are good examples of where there are statutory requirements for local councils and others to fulfil activities based on the primacy of protecting environmental health irrespective of the cost or the efficiency of that mechanism and we believe that that has served the community well. These principles now extend beyond those of environmental health issues contained within the sustainability principle.

In framing our submission you will have noticed that we have focused significantly on rationales for intervention and intervention as a mechanism for dealing with issues and we believe there are two clear cases, or we have expressed that there are two clear cases where governments should intervene in markets to achieve outcomes. Firstly, where there is a market failure and the cost of that failure outweigh the costs of the intervention to correct it and we have used the term "market failure rationale" throughout our submission in referring to that particular rationale.

The second is where there is a negative outcome or a significant risk potentially with large attendant costs and the outcome or risk can be averted through planning even though at this point in time we're not able to fully fix or determine the exact nature of the market failure of the market failure or how to fully price the costs of intervention or non-intervention. Again I would refer back to those previous examples of defence, health et cetera. It would be a little remiss, I think, of any government to wait to see how many people were killed by a particular action until they determined whether that was sufficiently viable to intercede or not on a health basis. Clearly there are some imperatives in dealing with waste and avoiding health impacts; that irrespective of the cost must be met and those are planned interventions.

Consequently we have focused our submission on the rationales for intervention because we see, and we would be happy to be convinced otherwise, but we see no evidence of any short to medium-term commitment to fully factor in the upstream costs which I think are an important factor in arguing that the market itself is able to fully cope with and cost all of the impacts of particulars actions. If this were to happen purely market-driven actions may have greater opportunities for impact and may be able to be left to the market with more confidence to deal with those issues but as I said to date we see no short to medium-term concerted effort to redress those inequalities, any upstream market costs within the system.

At that point I'll hand over to Michael Reid who did most of the work in terms of the detail of the submission, to work through some of the key points and then we would be happy to answer any questions at the end of that.

MR WEICKHARDT: Thank you.

MR RYAN: Thanks, Bernard. So in making a case for using - planning - what we have called the planning imperative rationale to justify action it seems appropriate to describe how one proceeds having invoked that rationale to fix a problem. Obviously we need to go out and gather data about waste impacts, about waste generation, and we need to gather information about what our communities expect of us, what the Australian community wants, in terms of sustainability concerns, what the community wants in terms of waste management activities, and I guess we expect that communities have a certain capacity to tell us directly what they think that sustainability means so, for example, when they tell us that they want recycling services, they're making a direct link with sustainability concerns, but in other cases I think that they leave it largely to local governments, state governments, federal governments, to interpret what that means. They tell us that they're interested in sustainability. We maybe need to make some judgments about what that will entail in terms of waste management practices.

Having gathered information about these things I suppose this is critical to a planning intervention. We then take it upon ourselves to identify outcomes, and in that we draw a sharp distinction, I guess, between planning imperative rationale for intervention and a market failure rationale for intervention because we have explicitly reserved for policy makers or for public decision-makers a role in determining what outcomes ought to be delivered by a particular system. So the extent that it's possible we objectively assess what are the preferred outcomes for the system and from that ideally we can distil out ultimately individual responsibilities for achieving those outcomes.

Having done that there are a range of strategies obviously for achieving outcomes and I have listed two; I guess a kind of dichotomy. We suggest that currently we're very much focused on strategies to achieve outcomes that are based at the end of the pipe where we have waste management services that have to respond and have virtually zero impact on the decisions that are taken prior to a material being delivered to their waste management service. I contrast that with an approach that involves producers - not only producers - but involves markets, consumers, in making decisions about how wastes ought to be managed.

These strategies for achieving outcomes vary. I would suggest that there is a distinction between those two strategies, not simply in terms of their characteristics, but in terms of their capacity for allowing the market to come into play as a mechanism for optimising the efficiency with which we achieve those outcomes for

which we have planned and I would suggest that it's very important that we find ways of engaging with producers and using things such as market-based instruments to achieve the outcomes that we have set for ourselves in a most efficient manner. Thank you.

It's a little unclear on that display - my apologies for that - but in the submission that we have provided the Productivity Commission, quite apart from all of the framework and structural work that we did, we described five major areas where waste, waste generation and practices surrounding waste are causing problems. Now, I would just like to go through those individually and discuss their broad characteristics and the application of the two rationales for intervention that we have identified.

In relation to waste data gaps, I think that it's clear that there is a fair degree of urgency in filling some of these gaps simply because it has such an important bearing on us deciding how we ought to tackle them or what actions we ought to take but in the sense that waste data gaps are not themselves the problem, the physical problem, I would suggest their significance is reasonably low to moderate and I would also argue that there are bases both on market failure grounds and on planning imperative ground to set about trying to fill those waste data gaps, but as I said, in undertaking a planning approach going out and getting data to inform decision-making is an absolutely critical part and so I have suggested that we ought to seek to fill those waste data gaps particularly on the basis of that planning imperative.

So the direct impacts of waste is one of the categories that is discussed in the submission are things such as impacts from landfills, omissions to air from waste collection fleets. Again I would suggest the urgency is reasonably high inasmuch as these are impacts that are being felt today and which can be avoided today, and contrasted with that is the fact that these impacts, these direct impacts from waste, are actually reasonably moderate. They are in most capital cities being reasonably well managed so landfills, for example, or recycling facilities, resource recovery facilities, are having some impact on reducing the direct impacts from waste. There is still plenty of room for improvement.

I would also argue, and we have put it to the commissioner, in our submission, that the basis for intervening to reduce direct impacts from waste primarily sits with correcting market failures. Where those impacts can be directly traced back to a particular activity it seems to us implicit in that that there are good opportunities for internalising externalities or improving the flows of information that will help both the people that cause the problem and the people that manage the problem to reduce those impacts. But that said, there is still scope for invoking a planning imperative to go out and try to reduce those impacts to plan for reduced impact.

We also discussed indirect environmental impacts from waste and in that we

were referring to impacts from missed opportunities to recover waste and consumption of resources that could have been avoided had those resources been put back into the system. I think that this is starting to be a less urgent but more important type of admission for waste managers. Again I would argue that you can justify intervening to try and reduce those indirect impacts from waste on both a market failure rationale and a planning imperative rationale.

Indirect political impacts from waste is a category of impact that is quite different to the other categories and particularly concerned the way in which dealing with waste is quite an unpopular thing. Dealing with the sticky end, if you like, of waste issues saps a lot of the political capital that local governments, state governments and to a certain extent federal governments have with their communities. In order for those problems to be resolved, if we see it again, I see this as being an issue of moderate urgency but higher in significance. In order for these issues to be resolved I think it's equally true that you can invoke a market failure rationale and a planning imperative rationale to intervene.

For example, where a producer is making decisions about say, for example, marketing a hazardous material, to the extent that they become involved in the dialogue with the community about how to manage those wastes, for example, through building a hazardous waste treatment facility, I think that you would see greater opportunities for changes in manufacturing and marketing processes simply because companies were directly feeling the heat which is currently being experienced by governments in relation to those wastes and the management practices for those wastes, but likewise the planning imperative which says, "We need to try and get our communities to engage with this more positively," justifies intervention as well.

Finally, and this may seem a little obscure, it is hard to find a title that correctly captures all the kinds of impacts that we are thrust into this category but what we have suggested is that waste management has been responsible in part and has been part of a larger process which entrenches a range of structural impacts. The task of addressing these impacts is something that we can only approach as a long-term project so I have ascribe a low urgency to that but its significance is, we would argue, enormous and this is a set of impacts which a lot of waste managers are actually quite concerned with even though they don't have any of the tools or capacity to directly target these kinds of impacts.

I think that it is unreasonable, infeasible, to attempt to address these kinds of impacts through addressing market failure. The market failures that drive are materially intensive and energy intensive style of production and consumption are so far up the production chain that it's really quite impractical for us to suggest that governments should intervene to say, for example, increase the cost of raw materials, the price of commodities. This isn't something that governments are likely to do in

the foreseeable future. On that basis we suggest that using a planning imperative we can make a judgment about some of these impacts being unacceptable and take action to address those.

In this slide we have attempted to show on the basis of the concern for achieving a sustainable society to show how those two rationales can be invoked, and to what extent they can be harnessed to achieve a more sustainable way of doing business and consuming. So we suggest there are two rationales. The basis for this first rationale is that we believe that the functioning markets optimally allocate scarce resources and there is a belief, and we're happy to let that belief stand, that it is best to let markets, if they're functioning properly, allocate resources because they're good at doing that.

Intervening on the basis of correcting a market failure will improve information flows and internalise externalities et cetera and through doing that has the potential to reduce direct waste impacts and increase the recovery of materials and so reduce some of those indirect waste impacts, but we argue that this approach invoking only this rationale for undertaking activity misses a lot of the greatest impacts and that potentially the project of reforming our global markets is simply too long-term to provide a timely response.

Contrast that with a planning imperative: we have argued that there are some critical issues which have outcomes that really are too important to simply leave outcomes to be determined by a process over which we have no direct control, and in order to assure those outcomes we have said that governments have a role in setting outcomes. Now, we also suggest that waste in its linkage with sustainability presents some of those critical issues that justify governments planning for outcomes. This style of intervention which flows from a planning imperative we suggest has the potential to tackle some of the largest impacts and increase material and energy efficiency, increase fairness in allocating costs and to actually modify the way that products are consumed and produced and can protect much more readily than is presently possible through simply market instruments, non-financial values.

Having said that we recognise that intervening on the basis of a planning approach has the potential for inefficiency on an enterprise or individual level and that's an important side effect and in doing so governments will effectively be creating winners and losers which is not something that we particularly cherish, it's obviously a problem, but we think that the implications are sufficient to justify taking those risks. Just to sum up, we believe that sustainability is critical to the Australian community and we argue that resource efficiency is an important proxy, if you like, that helps us to understand what it is to be sustainable. We have also put it that we need to intervene upstream in order to achieve the largest gains in resource efficiency and that the present effort which is focused simply on end of processing is inadequate.

We have provided two rationales for intervention and we have suggested that they're complimentary and in particular promoting a planning rationale we would suggest that it provides a starting point for traditional command and control kind of interventions but that it also provides a starting point for market-based instruments. Thank you.

MR WEICKHARDT: Thank you very much indeed. Your argument is clear. However it is contentious, I guess.

MR REID: Yes.

MR WEICKHARDT: I mean, it's particularly, it would appear, bizarre to me that if we have got a concern about resource depletion and resource conservation and sustainability that in this state of all states in Australia that probably exports - I don't know, let me guess - 95 per cent of the resources in the state for the 5 per cent that we consume, that you start tackling resource conservation and resource depletion by looking at waste management.

I mean, I accept entirely your concerns about sustainability, we all share them, but surely if the world is depleting scarce resources at an unsustainable rate tackling waste management in a part of the globe that consumes 1 per cent at most of the world's resources and exporting at a huge rate to other parts of the world doesn't seem to me to be likely to even touch the sides of achieving your objective.

MR REID: Do you want to respond, Bernard?

MR RYAN: No, I mean, I think that's a valid point in terms of scale that you make in terms of the capacity for that particular approach to have an impact in terms of its scale and the magnitude of the problem but I would argue that - no less - it doesn't diminish the quality of the argument with respect to the particular interventions that we're talking about for the local markets and local activities within Australia.

MR WEICKHARDT: Let me stress that we're talking about where we sit in a continuum. I think you and almost everyone else who has submitted to this inquiry - and I would be in heated agreement that there are some no-brainers in this area of avoiding wasteful consumption and in terms of re-use and recover, I mean, the financial markets even tell us that picking aluminium cans out of the waste room makes good sense. On the other hand I think you - I hope - I think you say in your submission, and certainly I am of the belief, that going to the last molecule that is consumed and trying to recover that and put it back into some original commodity is probably consuming more resources than it's worth.

MR RYAN: Yes.

MR WEICKHARDT: So this continuum, one end it's sort of obvious and the other end it's, sort of, very questionable in terms of diminishing returns. But the issue of resource depletion and sustainability is an extraordinarily important one and you're not the first people to say you've got a real concern that the markets are not adequately pricing those issues in terms of sustainability and intergenerational equity but it seems to me that if that's the issue you want to attack, it's at that point that we ought to be attacking it. Now, you've said that you think it's politically unlikely and impossible to address that issue.

MR REID: Do you disagree?

MR WEICKHARDT: Do I - I don't know. I'm not an economist and I will defer to other people who have spent time agonising on this but I guess there are clear signs that markets do react to scarcity. What sort of discount rate they put on that in terms of looking to the future and are they looking out, you know, sort of, one year or are they looking 100 years? I'm certainly not going to make a judgment on that, I'll look to other people who are more expert on that, it's an important issue, but your concern is that there are unpriced externalities.

Now, clearly some of today's practices recognise that in the past we didn't attend to those externalities, land remediation or mine site remediation, we're still talking about greenhouse gas issues, adverse consequences of leachates and byproducts and, you know, the visual amenity. All those things are things that we've started to attend to but as to whether or not virgin raw materials and the prices are sending a signal to the consumers about depletion and sustainability, I honestly don't know. But if that is the central concern, as I said, it seems to me completely inappropriate to try and tackle that in 1 per cent of the globe by tackling waste.

MR REID: I've got two responses that I would like to make.

MR WEICKHARDT: Yes?

MR REID: I think we have honed in on that question about whether it's more appropriate to correct market failures at the top of the pile and we said in the framing this submission and - Bernard and I were talking about it right in the very beginning that what we would ideally like to see, measures to reprice those commodity inputs and they include things like energy. We suggested making that one of our recommendations but ultimately it did not seem a profitable way to proceed in light of the fact that we've got a - say, for example, an aluminium industry that relies on heavily discounted electricity and there is no political will in our view to redress the subsidies that are provided to that particular industry, likewise with the concessions that are made to a range of extractive industries and concessions that are made to agricultural industries.

We accept that tackling the externalities that are found downstream, by repricing those fundamental inputs of production is a tremendously sensible way to proceed but if a government is unable or unwilling to tackle the problem at that point then it seems to us to be a disingenuous argument to say that is where we need to make the corrections having already said effectively that those corrections are off the agenda. That's why, in our submission, we're focused upon this planning approach which acknowledges those limitations to the public agenda if you like and says, "Actually communities will support governments in taking action that will deliver these outcomes by probably a tremendously less efficient means," because they value those outcomes so much.

I mean, communities really do want to live sustainably and that aspiration is something that local governments are striving to help them achieve but they're tinkering at the edges because they are constantly being called upon to make something sustainable when all of the decisions which really most significantly impact on sustainability have already been taken and that is why local governments believe they have a stake in this.

The second point that I just want to make is that in my view it's not a satisfactory excuse for not undertaking action in a particular area to say that there are more significant problems in other areas. Now, I recognise that the allocation of, say, scarce government resources needs to be conducted in a way that reflects where the greatest benefit can be delivered but I don't think any body is suggesting that waste management replace other priorities - to the exclusion of those other priorities. I'm simply suggesting that more needs to be done in this area and the fact that more could be done in other areas in a argument to have in those other areas.

MR WEICKHARDT: Yes. I mean, the problem with all of this of course - and you are admirably explicit in saying what you're saying and I commend you for that because lots of people obfuscate what lies behind some of these claims. You've laid it there and, I mean, you make the point that ultimately, you say, it's too difficult and too contentious and too uncertain to use cost benefit analysis as a starting point to establish what's an appropriate - what level it should be set, it's your view that setting targets involves an intuitive political form of cost benefit analysis.

So what you're doing, I think, is saying, "Well, I've got a hunch. You know, down here somewhere I feel that this is wrong so I'm going to do something," and this issue is that governments - mankind over generations have made crazy decisions, the world is littered with governments taking actions that have bizarre and perverse outcomes. Indeed, this inquiry have had, you know, a lot of examples thrown up, somebody yesterday in Sydney was bemoaning the fact that car design today produces - in grinding up old card bodies - produces all this extra plastic shredder flock which is expensive to dispose of. I reminded that person that that extra plastic

is there because governments for very good reasons set fuel economy standards for cars which draw the car industry to lightweight cars and replace a whole lot of metal with plastic.

So, you know, we have examples of governments pulling leavers to do something that they see as in their best - you know, the best interests of the citizens and yet often these have unintended consequences. The problem is the globe has finite resources and what you're doing is trying to guess what the resource allocation ought to be to this area of waste management or waste disposal or recycling, your skewing what the market, if you like, would otherwise tell us?

MR RYAN: Yes.

MR WEICKHARDT: The question is why do you think you have the divine insight that gives you the right answer any better than the signals that we're getting from the marketplace?

MR RYAN: Well, I think at the outset the main point we made was that it's those externalities which are consistently and continuously being eroded from the upstream process which fundamentally devalue the ability or the argument that the market is any better placed to make those decisions than some sort of arbitrary outcome - - -

MR WEICKHARDT: Even where the market perhaps is not pricing some of those things in like greenhouse gas emissions, at least we have probably some sort of international consensus as to a range of what the value of those greenhouse gas emissions might be in externalities. We don't have a properly functioning market but we've got a quantum of, you know, how big could this effect be? So we've got some method of testing whether or not an action is in the ballpark of about what we're talking about. We really have absolutely no way of judging whether or not the sort of target setting approach is giving rise to a completely inappropriate skew of resources into a particular area.

I mean, you mentioned health and you said, "Well, you know, there are some absolutes. I've just sat an inquiry on medical technology and although governments don't like to talk about it a lot they're - the government says, "I've only got a finite amount of money to put into health," and so we might not like it, we cringe and be slightly uncomfortable. The Pharmaceutical Benefits Advisory Committee say, "Shall I list a new drug that the government supports and subsidises?" They actually do put a value on a human life and they do say, "Well, quite frankly spending more money on this drug compared to another intervention I'd make somewhere else isn't cost effective." So a lot of these decisions have to be made somewhere and the issue we're grappling with in this inquiry is really how to give government best advice on how to arrive at a sensible, sort of, decision in the area.

MR REID: Certainly. I think it's important to distinguish though between the fine detail of the decision in the example - you're talking about the application of a set of finite resources that have been allocated to, say, the health budget, how are we going to spend this through the PBS? I think that it is far less contentious to say we ought to use some quantitative measures to try and determine how to allocate within that overarching budget the scarce money that we have, I think that that is different from making a judgment at the outset that protecting health is a priority for the community. Now, the point that we're making is simply that sustainability deserves to be elevated to that level where governments accept that communities are placing a particular emphasis on that.

Now, we're not proposing that that somehow creates some endless pot of money for governments to distribute within that area and in suggesting the need for, sort of, an almost intuitive approach to setting some targets we're really talking about engaging with the broad questions. So a semi-intuitive approach to determining what might be a sustainable type of consumption might be to suggest that it would be appropriate for governments to aim to reduce the rate of waste generation per capita or per household from, say, a ton per year to, say - to reduce it by, say, 25 per cent or whatever - - -

MR WEICKHARDT: But my point is, why 25 per cent? 95 per cent, 99 per cent or 5 per cent? And it's then that you start going back to, is my intuition weighting some unpriced externality of resource depletion in a certain dimension and what I'm trying to say is, surely we have to have a go at trying to understand the magnitude of those to be able to judge whether these targets are sensible.

MR REID: We do. We absolutely do but I think part of the argument that we're making is that at the moment there seems to be tremendous resolve to run away from the establishment of targets and the measurement of problems because people - politicians for example don't want to be backed into a corner where they actually have to do something on these issues. Now, to us it is patently obvious that a society that turns over its material and energy resources profligately in ways that gives, say, for example, Australia, an extraordinary waste generation rate. It is self evident that in the very long term that will be unsustainable.

Now, we do need better data on what are the material and energy limits that the globe can sustain. It just doesn't seem to be a problem quite like the - for example the greenhouse - the question of what is a sustainable level of greenhouse emissions, the data and the scientific inquiry in that area is far more, the boundaries around that inquiry seem to us to be far better defined. We are engaging in a fuzzy area where we really have to bite the bullet and say, "We're not absolutely sure what the impact of throwing out a million computers a year is," or, "what those impacts are," rather. We have to say, "But we suspect that they are substantial and that they are worth avoiding."

You know, we've got data on how much it might cost to, say, recover those computers or how feasible it might be for those computers to be able to be rebuilt, for example, a new motherboard or whatever put in. At some point it becomes legitimate for a government to say, "This is an outcome that we don't accept has to result and an outcome that we believe net benefit for the community will be delivered if we reduce the volume and the type of the materials that are being produced here in the waste generation stream."

I accept that we need more data and that was one of the very first points that we made, we need more data to help us to make those decisions about which of those particular waste streams that we need to start targeting more closely but we first of all, I think, need to make a decision that it is a priority for governments to go and seek to make these reductions and I don't think we've arrived at that point.

MR RYAN: I think, as you've said, we've been quite clear in recognising some of the limitations of the arguments that we put forward in terms of the sustainability rationale but, nonetheless, we also see value in starting to explore those rationale in a complementary fashion with a market based approach.

MR WEICKHARDT: Yes.

MR RYAN: And as that data becomes available then those decisions that you refer to are able to be given more structure, more body, and put into that context of not just the economic but the political scene as well, so there's a financial cost but there's also political imperative to move or act in a certain area. When both of those, one is financial, one is non-financial, those things need to be pursued to achieve both of those outcomes and we believe - that's why we put forward both of those rationale working in a complementary fashion rather than one taking absolute precedence over the other.

We certainly recognise that there is a real paucity of information regarding that planning process that can inform it as well as it needs to be on all fronts, however there are particular areas and particular material flows within the waste stream where some of that information is reasonably good and that that planning imperative and therefore a market intervention is much more able to be justified than in other areas.

MR WEICKHARDT: Sort of, another submission that we received in the inquiry which I would say also is a thoughtful one but one - probably if I could characterise it as being on the other side of the fence to your own - from the Business Council Round Table for Sustainability, I think is their title. They've said to us, "Well, look, COAG have accepted that before governments intervene they ought to be quite clear about their objective, they ought to look at alternative options for achieving their objectives and they ought to weigh the costs and the benefits of those up and chose

the ones with the lowest costs and the maximum benefit.

That's the sort of general principle of government intervention that I think is well accepted and they've said the thing that ought to drive that analysis is an analysis of value and risk and when we're thinking about waste it's those two issues that really ought to be the driver and they particularly are arguing that intervening at the waste disposal end of a pipe is the wrong way to address risk at the top of the pipe. So it's those issues that we're trying to grapple with and you're probably well and truly familiar with the counter argument.

MR RYAN: Well, I think we recognise that - and I think we've made it explicit - that we recognise the great gains are elsewhere however we would call into question, I think, the demonstrable action in those other areas to deal with that. Now, in the absence of that we would argue that complimentary measures are legitimate and I think it's probably not entirely explicit within the submission but I think there are a number of our members who would quite happily accept that if the markets were properly priced that they may in fact gain more trust in being able to deal with those issues but, as I said at the outset, we see no process or no commitment to actually redressing that. Now, in the absence of that alternative we're left with a problem and - - -

MR WEICKHARDT: I understand.

MR RYAN: So we think that it's not sufficient to simply leave the argument as paralysis through analysis and say, "Look, we can't do anything until we know the exact quantum of the impact." I mean, I suppose if you look at smoking as an example, you know, until we exactly quantify the impacts of smoking we can't make comments about that. Now, that was a classic and iconic example of how that debate drew out over a large number of years and had huge impacts in terms of human health on the basis that, "Well, you don't really have the exact numbers therefore you can't argue your case." Now, we would suggest that that's one of the examples in the past that has suggested that that approach - if it's an absolute approach - leads to potentially very significant impacts - negative impacts if it's no married with some sort of balance.

MR WEICKHARDT: If one of my sons would here he would be ashamed of me that I couldn't think of the physician that said this because he's a doctor but one famous Roman doctor - it might have been the man against the Hippocratic Oath - - -

MR RYAN: Hippocratic Oath, yes.

MR WEICKHARDT: His first adage was, "First do no harm," in terms of intervention.

MR RYAN: Yes.

MR WEICKHARDT: And I guess that's the issue, that governments in the desire to correct some of these problems end up with a perverse outcome and that's what we're trying to help governments think through and we wrestle with this issue.

MR REID: But I think it's interesting, though, in the submission made by the Business Council - the submission that you just referred to, I did thumb through it myself.

MR WEICKHARDT: Yes.

MR REID: It's a tremendously fortunate position to be arguing from which is, I suppose, in seeking protection of the status quo and we recognise that we're at the start of a very, very long road in seeking to change the way in which production and consumption practices are undertaken and this is merely one step along that road but, as I said before, it is self evident to us that there are problems in the way that materials and energy are being really quite profligately thrust through this product life cycle and it is just as easy for us to ask, "How are you so confident that the market is providing a reasonable approximation of the value of these materials and energy when you really, I think, have to concede that there are some quite extraordinary distortions at the top of that life cycle in terms of the valuing of these inputs?"

MR WEICKHARDT: Okay. Let's just move on from there. One issue that you talk about and I fully understand in a state as large as Western Australia is the challenge of people in remote and distant communities. The one issue I must admit I'm a bit surprised about if I've interpreted your comments correctly, consistent with your point there are some things that you never trade away, is the issue of the environmental standards to which, you know, landfill will operate in remote locations. I think if I follow your, sort of, general theme and certainly as a citizen of this world I would have thought there are some areas of the operation of landfills regardless of whether they're in Perth or whether they're in Karratha that, you know, just ought to be absolutes and we shouldn't be tolerating, given our knowledge today, you know, sort of, landfills that have leachates or, you know, are badly administered and run.

MR RYAN: I think as an association we recognise clearly that that's not a case that we support. We actively try and help our members in addressing those particular issues in terms of their shortfalls but it brings up that issue of the - I suppose the end of pipe solution and the costs for that are not adequately reflected through the process so therefore the resource which those small often remote communities need to expend to manage waste in that particular fashion which the market has determined is the best way for the material to be managed is actually significantly

higher in those areas than anywhere else. Now, they also have a whole range of other issues which they need to deal with including, you know, education, libraries, swimming pools, you name it.

What we're arguing on, I suppose, is that the devaluing of resources by, if you like, treating them as waste and therefore resigning them to landfill doesn't give those communities the opportunity to capture the value of those materials which have been transported to those areas and therefore recover and manage them in an appropriate fashion. So those costs are being shifted not only to local governments in the metropolitan area but more so - or the impact is amplified in non-metropolitan areas.

MR WEICKHARDT: Sure.

MR RYAN: So it's - aside from those things which are - you know, I mean, most materials in the waste stream can be recovered for a price.

MR WEICKHARDT: For a price.

MR RYAN: For a price.

MR WEICKHARDT: Because it requires other resources to be exerted.

MR RYAN: Indeed. And I suppose what our country members face is a largely insurmountable capital and recurrent costs in attempting to do that.

MR WEICKHARDT: Or the tyranny of distance.

MR RYAN: And the tyranny of distance so - - -

MR WEICKHARDT: In the urban area of Perth principally you have a landfill levy set by the government, part of which, I think, is hypothecated back to waste treatment or is all of it entirely - - -

MR RYAN: It's fully hypothecated back to waste management.

MR WEICKHARDT: What is your view of, first of all, the mention of that levy and its effectiveness in achieving what it was put in place to do and secondly the way the funds that flow from that are being allocated?

MR RYAN: In terms of the dimension, with respect to the overall cost of landfill it represents a very small proportion of that cost so if the rationale for the levy is - and it has been touted as a disincentive to landfill and to encourage uptake or alternative recovery mechanisms, then the quantum of that levy is significantly below that required to induce those alternatives in the metropolitan area and doubly so outside

of the metropolitan area. In terms of the allocation of those funds which are generated through that levy to programs, largely they to date I think have been ineffective in generating any significant change in terms of waste to landfill. I'm talking about the levy now as opposed to actions that are undertaken by other organisations for other reasons, principally those reasons which relate to sustainability, so communities' valuing thing.

So the levy of $3 a tonne is not the reason that. For instance, a number of regional councils have gotten together and funded 50 to 100 million dollar resource recovery plants. It's a drop in the ocean. So really that not only has a very small impact in that sense, it also is completely divorced from the actual purchasing consumption process, and that's where we see one of the problems of a levy as being a very blunt instrument and not being able to actually engage with consumers and/or producers in being quite specific that if they take this course of action it will be more expensive than if they take that course of action. For example, in the area of municipal waste, treatment costs would probably run - this is to divert material from landfill - and depending on the process, but anywhere from 80 to 150 dollars a tonne. A levy of $3 is going to make no difference there.

But there are elements of the waste stream - you might look at construction and demolition waste - which, you know, a levy of 6 to 10 dollars would be 50 per cent of the costs of its current landfill cost. That has the potential to drive very significant change in that area and that's the sort of intervention I suppose that we're advocating, is that in particular areas and with particular materials, interventions are either by a levy or advanced disposal fees or a range of market-based instruments have the potential to impact significantly on those particular streams without there being a huge distortion of the total market.

MR WEICKHARDT: In terms of landfill itself, whilst I happen to come from the school of thought that says that regulation and enforcement ought to be done as stringently as possible to have each of those landfills internalise any of the externalities, but to the extent that that's not the case today, have you made any assessment of how big the externalities are associated with landfill in WA? Do you have a feel for that?

MR RYAN: I think there was a study done 18 months ago looking at trying to estimate the overall costs, real costs, of landfill, and I think it came up with something like $700 million nationwide. If you look at that, that might suggest that there's, on a per capita basis, $70 million unfactored cost of landfill in WA. That took into account - that was a Nolan ITU study. I can't remember the exact name of it.

MR WEICKHARDT: The Nolan ITU study, okay.

MR REID: But in terms of greenhouse emissions, I mean, I think that the conversion of putrescible waste into a CO_2 equivalent is fairly well understood and in relation to even landfills for which there is methane extraction, I think it's generally agreed that the best you can do is about 50 per cent of the methane being recovered. The other half is obviously just lost and vented.

MR WEICKHARDT: We've had figures of 90 per cent quoted to us. In fact, the New South Wales government, I think their figures indirectly suggest that it could be even higher than that. I think they say the range of the methane per tonne of putrescible waste was from .08, CO_2 equivalence to 1.02, so it's a big range, and we asked them to come to us and explain where those numbers come from but - - -

MR REID: I'd be sceptical of 90 per cent.

MR RYAN: Yes.

MR WEICKHARDT: Certainly that's a claim that's been made.

MR RYAN: Not our experience.

MR WEICKHARDT: All right. Look, there's a lot more we could talk about. Thank you very much for appearing. Thank you for your submission and the thought that's gone into it, and we've enjoyed having a chance to talk about it.

MR RYAN: Thank you. We look forward to seeing the interim discussion paper coming out and making another set of comments of that point.

MR WEICKHARDT: Thank you. We'll adjourn just briefly and the next participant we have is GRD Ltd.

MR WEICKHARDT: We have GRD Ltd, Mr Peter Eggleston and Mr Brad Rogers, and if you could just introduce yourself, your name and your positions, please.

MR EGGLESTON: Thank you, commissioner. My name is Peter Eggleston. I'm the director, corporate affairs, for GRD Ltd.

MR ROGERS: My name is Brad Rogers. I'm the manager of corporate finance for GRD Ltd.

MR WEICKHARDT: Thank you. You should assume that we've read your submission and we've also had the privilege of seeing your facility at Eastern Creek but if you want to make some introductory comments, please go ahead.

MR EGGLESTON: Thank you. I thought we might just sort of skip through the key tenets just to introduce the discussion, and we recognise that the sort of discussion is the high value part. So just quickly we thought we'd give a quick overview of GRD, quick overview of the process, have a look briefly at the facility and then just touch on the high points of the points we made in the submission and then allow the time.

GRD is a construction and development company. It's based here in Western Australia but it has very much an international focus and it's the synergies between the engineering, technical and construction side of the business and the waste resources side that I think has been able to bring to bear a fairly unique approach to dealing with resource recovery. As part of a worldwide scan of technologies in the early part in the year 2000 we looked at all sorts of technologies and came up with a sophisticated integration of a number of the world's best technologies to produce the UR3R process.

As you would have seen at the Eastern Creek facility, it's basically comprised of a waste separation process to separate the recyclables. It then goes through a biodigestion process to create some energy production and renewable energy and then put the solids through a composting and refining process to produce high quality organic growth media. We're pretty excited that the organic growth media has achieved Australian standard certification and it is experiencing some very positive trials on agricultural land and getting some good take-up at this point in time, and that's just to put a frame of reference of the Eastern Creek facility, which is a world first, and has recently completed a number of load and completion tests and we're very excited by the fact that the throughput has reached complete capacity and it is now performing to expectations.

On that note I'll pass over to Brad just to hit on the high points of the submission. But I will make the point that we were recently selected as preferred

bidder for the Lancashire Waste Partnership PFI Project in the UK. This is a $6 billion project that will process some 20 million tonnes of waste over the next 25 years and we would point to it as a very sophisticated approach to dealing with a waste management. The Lancashire County Council have thought it through very carefully and their whole approach to it we think is exemplary and there are a number of lessons coming out of that that we think are quite useful for the Australian circumstances.

MR ROGERS: Thanks, Peter. I'm just going to skip through quickly, before we get into questions and answers, the sort of five main issues we discussed in our submission, the first one of which related to the net benefits and costs as we see them of landfilling versus an approach such as ours. We note the questions on notice that we received in relation mainly to the report by Nolan ITU which we appended to our submission. I have brief detailed responses to those. In the next week also we've asked Nolan ITU to respond to us in the first instance obviously and then we'll forward that to you in a much more detailed sense. I've only got sort of bullet-pointed answers at the moment but we'll get back to that. So I don't have too much more to add to that at the moment.

That's not in our submission and it won't be coming in our subsequent submission to you, but suffice to say the main difference between our calculation of externalities and those that have been quoted by others is that the Nolan ITU defines the system to include embodied energy and recreation of materials from virgin resources and things like that, rather than simply leachate effects and those that are contained at the sort of post-consumer level. The Nolan ITU takes a broader span for the definition of its system and includes pre-consumer and consumer effects that are related to materials that arrive at landfill or at one of our facilities in the last instance.

MR WEICKHARDT: Thank you for agreeing that you'll get back to us on that. It really would be very helpful. We believe we understand in principle the approach that Nolan ITU have taken and I don't think there's any fundamental disagreement with the life cycle analysis approach but we found trying to understand some of the numbers that have been quoted quite difficult and they are really quite critical to aspects of the whole waste management policy and because they've been widely quoted and used in Australia we really would like to understand the basis for them.

MR EGGLESTON: Thank you for that, and it's important to note that it is an independent report by Nolan ITU; it's not our report.

MR WEICKHARDT: Sure.

MR EGGLESTON: Hence that's why we've asked them to prepare the responses to that in some detail and we think that that will be quite useful as a result.

MR WEICKHARDT: Thank you. We came back to you in the first instance because you'd made the submission and I think you appended the report with the comment, "This is a vital part of our submission," se we thought it was only polite to come back through you.

MR EGGLESTON: Entirely appropriate.

MR WEICKHARDT: Thank you.

MR ROGERS: So on to the next issue then, and again we'll come back to you on the last one with something much more comprehensive. But on the barriers to optimal sort of MSW management models we'd like to make a few points. One is that there seems to be still existing in Australia, and we can contrast this with our experiences in market development overseas, that landfilling is really the only viable option that exists. At a practical level, that can come through in such things as planning documents at local government levels that plan for landfilling capacity on a sort of technology or a solution-specific basis, rather than planning for the procurement need in general, but also tender evaluations is one more simple example which don't take into account externalities and I can understand in one sense the reason for doing that. But they make the evaluation based on a strict financial comparison only.

Additionally, management of waste procurement in Australia at the local government level can itself sometimes prejudice a solution such as ours which require a large, fixed investment by the private sector. Often the tenders are premised on a sort of services procurement approach and they don't contemplate the types of undertakings and guarantees over a long period of fixed investment return that we require and that our banks require in order to give us confidence to invest in a private sector. Those sorts of things have parallels obviously at state level PPPs, but the capabilities to date and the experience in those sorts of investments haven't really been occurring at the local government level yet, yet waste remains the responsibility of local government.

So there seems to be, from our perspective in Australia, a bit of a confidence gap in certain states when we look at these projects and consider making north of $100 million private investment in infrastructure which will be in place for 20 to 25 years. In order to do that, to give ourselves confidence and our banking syndicates confidence, we need certain undertakings which, at the moment, don't occur typically in these sorts of tenders.

The third key issue, I don't have again too much more to add other than the indicia or the metrics that are available on the waste industry aren't many at the moment and those that do exist, diversion and tipping fees, can often be measured in a sort of non-standardised way and that makes it difficult for us as an individual

company within the sector to plan and to make our case but also at a sectoral level it's difficult to sort of again paint that picture and to plan in a strategic sense.

Onto the impact of international trade and trade agreements: our main point in our submission here is that it's important to us that soil products that are sourced from MSW like our, what we call, OGM, from our product, which is a soil conditioner that's sourced and converted from the organic component of the waste stream, be classified on the basis of their quality, not simply on the basis of their source.

We think that a blanket sort of classification of those products as industrial waste ignores the value in individual technologies that are emerging but also they can have the effect of restricting export opportunities not just for those products themselves - and there's instances where we've looked at overseas, for example, in Singapore and Hong Kong, that don't have a need for compost and need to export those waste across boundaries; classifying those products as industrial waste can have the effect of capturing them potentially under the Basil Convention, and there's a precedent for that between Singapore and Indonesia at the moment - but also it restricts our ability to export our technology in the first instance if there's those sorts of perceptions around one of the key products. As Peter said, we're happy to be judged on the quality of that product and it has been certified to Australian standard recently in Australia. We're just trying to avoid the blanket classification of products from waste as waste.

We've made a few suggestions for possible enabling strategies, the way we'd like to see things go in our submission, the first of which is to set the target and some date for the eventual banning of landfilling of untreated putrescible and recyclable waste and setting interim step-targets. There's precedent for this in a number of countries, in particular in our experience recently in the UK, and what they've done to enable or to facilitate the intervening period between present and the time when they were actually going to implement out and out bans is to introduce a landfill allowance trading scheme, which is a cap and trade system which has both a sort of carrot and stick effect and allows local governments to trade on diversion targets.

Getting then to the point that I was making earlier about providing some sort of an enabling framework in Australia to enable infrastructure-based solutions rather than just landfill-based solutions to landfilling in Australia, at the moment there exists a sort of confidence gap based around the experience that the people who are charged with managing waste have in essentially giving confidence to the private sector to enter into these sorts of infrastructure investments. So those include guarantees around pricing and volume of waste flows. They include things like there's an overarching - in the UK obviously - the private financing initiative, to give confidence in that respect as well, as well as some sort of expert capability, either advisory by state governments' treasuries to local government authorities or sitting

within those authorities themselves. Then much more broadly of course we'd like to see some sort of research, education and development support for what is a sort of budding AWT industry in Australia at the moment. That's a very quick overview of the main points of our submission. We're happy to take any questions you might have now. Thank you.

MR WEICKHARDT: Thank you. You made the comment during the presentation that the way Lancashire had approached their AWT has got some good lessons for Australia. Could you amplify on that slightly.

MR EGGLESTON: Yes, certainly. One of the things that they did is they've done a very extensive planning exercise and, rather than look at a sort of piecemeal approach to their waste challenges, they've taken a fairly holistic and integrated approach. By comparison, the population in Lancashire is about 1.4 million people, so we're comparing it to the City of Perth, for example. What they have done is try to look at the total network around the management of all the waste generated in the region, their municipal waste, and then designed an integrated network to address it, and then they have tendered that under the PFI scheme. The PFI scheme provides some very clear parameters around the project configuration and the contractual arrangements and the financing arrangements.

The integrated approach to a network means that you can have a phased approach to its implementation but you can also have a very flexible system of actually treating and managing the waste where you have a number of central treatment facilities, you have a number of green waste composting facilities, and you have some transfer stations, and that provides a very flexible integrated system for managing the whole waste approach. By taking that sort of holistic planning approach, it means that they can in fact develop a system that is the world's best. Is there anything you want to add more to that, Brad?

MR ROGERS: I think the overriding thing is the way in which waste is viewed in the UK versus Australia can contrasted. It's viewed like any other sort of infrastructure: bridges, roads, tunnels, schools even. At the moment there's some experience in Australia with procuring those on a PPP basis and there's capability within state governments and an understanding for the sorts of undertakings and really a partnering approach for a long-term investment that the private sector requires in order to confidently enter into these sorts of things. Governments in our experience in Australia can sometimes baulk at those sorts of requests, whereas they're anticipated and obviously entertained in the UK.

At a practical level that can, in the UK, come down to they are developing a federal sort of standard contract for waste procurement, so a lot of those uncertainties that we might have coming into a procurement of this type in Australia, they're already on the table and, like it or lump it, at least that's out of the way and we can

make that decision before spending a dollar. At the moment, if none of that's created, we spend literally millions of dollars in creating that on a bespoke basis. But also there's a capability at the sort of federal equivalent level in the UK to give advice to local governments to sit on their tendering panels to share that sort of knowledge and to build on it as they go when they start to procure these types of facilities around the country. They're still in a fairly nascent stage of their development and that standard contract is still being developed but at least it's in train. We can start to see those sorts of things, we can start to provide input into it.

At the moment here, as I said, the overriding feel is that these procurements are still viewed as short-term services, as a sort of four or five year landfilling contract which we'll renew at our sort of local government discretion if we see fit. We, on a project financing basis, wouldn't recover our investment for much longer than that. So we need to then educate before we can even start entering into that type of thing and that presumes in the first place that they're interested and that they perceive that a technology like ours is viable. So it's quite a long road to sort of bear when we get into one of these opportunities in Australia whereas there's a mindset and there's precedent for these things elsewhere in the world and they're making an effort to standardise it on the same sort of basis as other major infrastructure procurements are standardised.

MR EGGLESTON: What we're finding in Australia is that because the public private partnership arrangements are very embryonic here we basically have to reinvent it in every situation that we're dealing with a resource recovery facility, and that's very inefficient.

MR WEICKHARDT: Thank you. I understand in the UK, indeed in parts of Europe, that there are a number of AWT facilities that I guess mainly go through the process of taking putrescible waste, process it, capture methane in the process and produce a stabilised product that goes to landfill at the end. In the Lancashire case, is most of the solid that comes out of it going to landfill still or is a lot of this product going to be sold for composting applications?

MR EGGLESTON: No, the product won't go to landfill, it will be used as a composting and landfill application. There will still be some residual that will go to landfill but because of the current regulations in the UK it will actually be used on woodland and land rehabilitation rather than on agricultural land. But our view is that when the quality of the product that we produce is put to the test we think that will change in time.

MR WEICKHARDT: I see. Now, we've been told a few things that are sort of a bit contradictory and I suppose a bit disturbing in some ways about compost around this country. It's been put to us in Sydney that there is in excess of 400,000 tonnes of compost looking for a home in stockpiles. Your colleague, John Norson said in

Sydney all your compost is going straight out the door. I guess other people make different sets of claims. What is it that you think can be done about this issue of compost? There seems little technical difficulty with governments diverting municipal waste streams into AWTs; technically that's possible. If part of the value of this is producing compost; if the markets for compost are all miles and miles away and if compost is expensive to cart it seems that there may be a fundamental problem here that the laws of nature don't let us overcome.

MR EGGLESTON: I think there's a couple of elements that are worth teasing out on that. The first is that there are quite substantial differences in the quality of composts around the country and there are many examples of composts that haven't had the take up because of either impurities or glass fragments or other contaminants in the product. To our knowledge this is the first time that we've had an organic growth media actually certified under the Australian standards and therefore we believe that part of the secret is to produce some very high quality product that will have the take up.

The other side of the dimension is to actually look at the development of market in agricultural and rehabilitation land use. That, we think, will take some education, some research activities and some government support to actually build and develop that market. I think the issue of our transporting compost, it certainly is an issue at the moment because of the way in which the compost products are priced. But if you look at the organic fertiliser market where you're looking at a product of a much higher value then we have chemical fertilisers in Australia which come from one or two sources both locally or internationally and are then transported and distributed throughout the nation. So there should be no impediment ultimately to the transport and distribution of high quality product provided that it gets the take up as an organic fertiliser rather than as a low quality compost material.

MR WEICKHARDT: You've got a much higher concentration of nutrients of course in synthetic fertilisers than you do in compost or alternative growth media or whatever you want to call it and I guess the dilemma that the generation of these materials is in urban centres and the markets are typically not in those urban centres.

MR EGGLESTON: There is no reason why blended products can't be produced and compost material can't be blended with other materials to improve its nutrient value. For example, we're pulling out elemental sulphur at the Eastern Creek facility as a by product of the higher gas production to energy and that can then be reintroduced into the compost to improve its quality as can some of the SPC products coming out of disposable nappies and so on to improve a tauter retention capabilities. So that requires a bit more research and a bit more education but our belief is that with some government assistance in this area that you can produce a very viable organic fertiliser material that can get take up in agricultural land.

MR WEICKHARDT: Are you able to say what sort of values you're achieving for compost out of the Eastern Creek facility?

MR EGGLESTON: That at this stage is commercial in confidence but we are very encouraged by the take up that we're getting. We're also very encouraged by the result from the trials that are showing some very positive outcomes both in terms of returning carbon to the soil, in reducing the frequency of watering and in terms of the biomass production.

MR WEICKHARDT: What sort of applications are they going to?

MR EGGLESTON: We're looking at broadacre use in terms of horticultural activities, particularly in peas and some of the agricultural products.

MR ROGERS: Tomatoes and grapes?

MR EGGLESTON: Yes.

MR WEICKHARDT: One thing that would be helpful just to sort of get a benchmark number is if you took out all issues like, you know, sort of, gate fees in and value for products out whether it's methane and whether it's MRETs from the methane or recovery of aluminium cans or recoveries from compost, if you were simply asked to build an AWT of your sort and you had to make a sensible return, on the capital investor would be the processing fee per tonne if the input were provided to you free of charge and all the outputs were taken away with no sort of net fee?

MR EGGLESTON: That differs based on a number of factors - not being too obtuse; I'll get onto that in a minute. The question for us isn't just the price of the gate fee, it's that we seek to project finance these facilities and therefore we need a substantial element of our revenue to essentially be guaranteed for at least the period of that project finance.

MR WEICKHARDT: No, I understand that.

MR EGGLESTON: So relying on commodity offtake and things like that: what typically happens in the UK for example is that there's a revenue sharing to stop us making super profits of our products and the gate fee is what it is. Coming back to your question: it depends greatly; we've got a flow sheet or a number of processes which can be configured to the individual circumstances so that composting backend needn't produce a compost if there's no market for it locally. Obviously that's what we've built at Eastern Creek and that's what we're building at Lancashire and have been selected as preferred bidder to build in Melbourne. So that's our capability at the moment; needless to say you can do a number of other things with it.

Also capital expenditure, environments and indeed our own development costs up front which I alluded to earlier: if there aren't those sorts of standards in place we can spend quite a great deal of our percentage of our overall capital expenditure just on up front risk money to secure the contract in the first place. So all those things can affect the gate fee and because of the factor that I talked about earlier, we'll seek to at first instance recover most of those things from the gate fee because we need to finance it on a secure basis and typically what governments will do will be to put in place measures that ensure that other sorts of revenues are shared.

So it can be anything; there's a scale requirement as well that we have for these sorts of facilities which means that we need to target large urban populations as you've probably ascertained. So it's a range of gate fees, in order to answer your question.

MR WEICKHARDT: I'm not trying to pry into anything that's commercial in confidence, I'm trying to get a ballpark number. I mean are we talking about $50 a tonne, $100 a tonne, $150 a tonne, $200 a tonne, $250 a tonne? I mean - - -

MR EGGLESTON: I guess there's a sort of rule of thumb in Australia in Sydney the processing fees are in the ballpark of the landfill gate fees currently which range, in my understanding, from about 90 to $120 a tonne. The gap in the other metropolitan cities in Australia is considerably greater because the landfill costs are considerably lower under the current costing regime. There's been plenty of discussion about why that regime doesn't take full account of the landfill costs.

MR WEICKHARDT: But does that 90 to 120 assume you get some credit for the methanes and the aluminium and the - - -

MR EGGLESTON: Yes, it does.

MR WEICKHARDT: Right.

MR EGGLESTON: But it's also interesting to point that in the UK we're talking about gate fees in the order of three times what they are in Australia.

MR WEICKHARDT: If I understood correctly from our tour around the facility at Eastern Creek, bizarrely even though it's a very small percentage of the total you recover, aluminium is the biggest revenue earner. Is that correct?

MR EGGLESTON: In terms of the recyclates, yes, that is correct. Aluminium is a high-value material and we're getting some good prices for it.

MR WEICKHARDT: In terms of the sort of alternatives: I understand that your process actually likes mixed green waste in with it. We've heard lots of people talk

to us about the value of up-front separation and separating green waste out from recyclates; it would seem that adherence to those sort of separation processes is not always good but in a perfect world if there were a green waste collection and if all the aluminium cans ended up in the recycling bin, would the sort of technology you're talking about actually be appropriate?

MR ROGERS: Yes, it would be is the answer but we would design our facility differently. We obviously make certain assumptions when we design one of these facilities that there will be a certain amount of each of those elements in the waste stream and regardless of the extent of that source, separation in various places in the world; invariably the recycling rates mean that there is always going to be some of those hard recycled materials in the - and indeed green waste materials in the mixed waste bin; it appears to be human nature. We would design though, if all of those things weren't in there, a facility which perhaps had a much smaller up front sorting capacity or indeed none at all; we would design it for the waste stream is the answer.

That would obviously affect our pricing in other areas; we would seek ultimately to make a return that services debt and that services the equity return expectations of our shareholders. These flowsheets, as I said earlier, are somewhat flexible in that regard and they can be tailored to the waste stream and the circumstances and the product markets in question and the constraints around that are - some of them are obviously returns for debt and equity; we would just price the products and the waste streams that we have differently.

MR EGGLESTON: The experience though in other parts of the world is that source separation is notoriously inefficient at the end of the day; it would get to a level but then there are some inefficiencies that will arise partly as the result of human behaviour and partly as a result of system design. But if you look at the total system: in terms of the efficiencies, in terms of energy consumption, in terms of transport and so on, there are some considerable efficiencies in having an amalgamated waste stream and it would seem to us that the areas where you can get the greatest efficiencies and gains of source separation are in fact to separate out things like your hazardous materials and if you can separate out those and then treat and dispose of them properly and perhaps in terms of paper and cardboard; in terms of keeping it clean and uncontaminated, there are some efficiency gains that from a total system perspective that can be achieved. Certainly in terms of an amalgamated waste stream, having a centralised facility to separate does offer some considerable advantages.

MR WEICKHARDT: I understand that some of the output from Eastern Creek goes to what is called daily cover or - - -

MR EGGLESTON: Alternate daily cover, that's correct.

MR WEICKHARDT: How much of the sort of output of the organics would end up in that sort of application as opposed to in a compost application?

MR EGGLESTON: That configuration is unique to Sydney and it's partly because the facility is located on a landfill site. It is intended to phase that out over a period of time and move to a full organic growth media production. In the case of other facilities: in Lancashire for example the alternate daily cover is not part of the configuration but I guess in terms of proportion, about a third?

MR ROGERS: Yes, I don't know off the top of my head but - - -

MR EGGLESTON: Yes, I think it's about a third.

MR ROGERS: --- as Peter said we're phasing that out in any case, even in Sydney.

MR WEICKHARDT: Because I understand that the New South Wales government have now removed the exemption for alternate daily cover from paying the levy which - - -

MR EGGLESTON: That's correct.

MR WEICKHARDT: How does that affect your - - -

MR EGGLESTON: It does have a quite a negative impact on our production and for that reason we will probably accelerate the move away from alternate daily cover towards full GM production.

MR WEICKHARDT: You say in your submission there are long-term detrimental environmental impacts from landfills, I guess I would be interested in what they are and the degree to which you think the regulations and technology that now governs landfills, whether that really does appropriately tackle all the major sort of externalities that were of a concern in days gone by?

MR EGGLESTON: Well, I think we don't believe at all that the current system deals with the externalities at all well. The biggest impact that we see is greenhouse gas emissions and particularly methane which is a fairly virulent greenhouse gas agent and in the case of our facility it captures 100 per cent of those emissions from the bio-digestion processes and converts them to green electricity. If you have a look at the rough rule of thumb of about a tonne of carbon dioxide equivalent to a tonne of waste processed, Australia produces some 15 million tonnes of waste per annum as I recollect that is - if you could then capture all of that greenhouse gas and convert it to energy you have a very substantial environmental impact.

In addition to that I guess there are some landfills that they move towards

capping and recovering the gas but in any event they can only capture a proportion of it and landfills will continue to pump out greenhouse gases for centuries - not centuries, decades. The other elements of course are leachates, managing the leachates in the long-term.

MR WEICKHARDT: Just on the capture argument: we've heard different figures. I think you were here and the last participant I mentioned that we've heard claims of 90 per cent capture of methane from a modern landfill with appropriate capping. Do you believe in those sort of numbers?

MR EGGLESTON: We don't and we haven't seen any evidence to point to that. My understanding is that this sort of averages around 50 to 60 per cent and those processes are notoriously inefficient. We do have a small business in the US which is where we are capturing landfill gas from a number of operating and closed landfills and our projections are based on a lower recovery rate than that.

MR WEICKHARDT: Lower than 50 to 60?

MR EGGLESTON: No, lower than 90.

MR WEICKHARDT: All right.

MR ROGERS: It's in that range, 50 to 60, yes.

MR WEICKHARDT: All right. Okay, thank you. Sorry, I interrupted you, you were talking about leachate.

MR EGGLESTON: The other one of course - and we're certainly not experts in landfill and don't protest to be, but clearly there are issues about managing leachate and in areas such as Perth and particularly in the rural areas we have - landfill disposal is poorly designed and very sandy soils; you have the prospect of contaminated groundwater. In addition to that you've got a large area of waste disposal that inevitably has got to be managed for a long period of time and the issues around that management will inevitably come back to the state and the community. One of the issues that we've come across at Eastern Creek that has taken everybody by surprise has been the number of car batteries that we've identified and we are recovering some 15,000 a year of those batteries.

MR WEICKHARDT: How much?

MR EGGLESTON: 15,000 and the equivalent and that's out of a small proportion of Sydney's waste stream. Our view is that otherwise those car batteries would be going to landfill and creating quite a toxic cocktail to be dealt with in years to come.

MR WEICKHARDT: This is a bit of a digression but it's sort of a relevant issue you've raised because it sort of seems that the temptation for a household to put something that they've got in their wheelie bin is pretty high if that's the only place they've got to put it. I guess you don't like recovering car batteries from the mixed waste any more than really the EPA probably likes to see them in that mixed waste. I mean do you have any practical suggestions or experience elsewhere around the world of what it is that can educate householders but also provide then a practical sort of solution they can use to get rid of products like car batteries?

MR EGGLESTON: Well, clearly our view is that if you had a separate disposal arrangement for hazardous materials at the household level and that you had an education program - work that was targeted specifically at the impact of those hazardous materials that you would get some quite substantial gains. I understand that in places like Germany they have started to move down that path but I'm not aware of anything being done on a systematic basis in Australia. There are some facilities where householders can voluntarily take material such as mobile phone batteries or computer goods to actually dispose of them but not a systematic approach at the household level.

MR WEICKHARDT: I understand that there is an AWT facility operating in Western Australia in Perth, operated by a competitor of yours?

MR EGGLESTON: That is correct, yes.

MR WEICKHARDT: Does that facility, in your opinion, exemplify benefits that can be gained from AWTs? Is it achieving the sort of performance objectives that were set for it for in the first place, do you think?

MR EGGLESTON: We wouldn't comment on somebody else's facility and we don't think that it's appropriate that we do so but however we do have a view that the UR3R process and the results that it's delivering are well in front of any examples of AWTs that we've seen in Australia and indeed worldwide. That is only our opinion; the Lancashire waste partnership did a worldwide scan of all of the technologies currently in operation, they had their experts independently come and look at the Eastern Creek facility, they ran their own independent tests, they didn't rely on our data although they had full access to our data and they have come to the view that the global renewables solution offers the best option for handling their waste and that's from a worldwide scan.

MR WEICKHARDT: Given the experience that you've had in Sydney, were you disappointed that NSW didn't choose you to operate the second of the facilities that they are installing?

MR EGGLESTON: Are you referring to the northern suburbs area? I think from

memory - - -

MR WEICKHARDT: It's the arrow biotechnology - it's in Macarthur Park or - - -

MR EGGLESTON: Yes, it's a much - - -

MR WEICKHARDT: Jacks Gully, I think , is a - - -

MR EGGLESTON: I think from memory it's a much smaller scale facility and we've recently withdrawn from the tender for the proposed Mindarie resource recovery facility here in Perth largely because the scale is too small. They are looking at a 50 to 100,000 tonne facility and our view is that the optimal scale to get the economic and environmental efficiencies and the operational efficiencies is in the order of 175 to 230,000 tonnes.

MR WEICKHARDT: I guess that brings me to another issue and that is the number of people who have said to us that there are difficulties in dealing with local councils on big infrastructure projects of this sort. I think in fact somebody else said that they had tendered for quite a significant number of AWTs almost none of which had resulted in any sort of tender being let. I guess this is a sort of question which is outside your sort of direct feel but do you really think in the major urban centres that because of the sort of scale effects, because of the planning effects that really maybe as with sewage treatment which originally was treated as a local council issue but then became a sort of a whole sort of urban centre issue, is waste treatment at that sort of stage where, you know, Melbourne, Sydney and Brisbane really ought to be handled as one sort of centre?

MR EGGLESTON: Absolutely. There are a number of elements of that and I'll ask Grant to talk a little bit of financial and the contractual challenges but one is the consolidation of waste streams and getting facilities of sufficient scale to bring the operational and environmental and economic benefits. The second is that it is very costly to prepare tenders: to do the engineering design work, do the study work that is required to tender for these facilities and if they are not going to go ahead then few companies - or if there is uncertainty about them proceeding there are very few companies that will make that sort of investment. Unlike in the UK with the PFI system whereby the - once it breaches PFI status you've got a very strong certainty about the project proceeding.

The third element is that at the small scale local council level there's not a great deal of expertise in dealing with the contractual arrangements and the financing arrangements for such infrastructure and therefore they tend to reinvent the wheel every time in a less than expert way and by having a mobile, consolidated approach of a large scale you can coordinate that expertise and experience. Do you want to comment on the financial and landfill - - -

MR ROGERS: Yes. I think I'd sort of repeat some of the points you've just made, Peter, I think there's still a view that waste isn't a strategic infrastructure solution in Australia, that it's something to be planned for in the sort of short-term planning horizon of three or four year service contracts and obviously if you own a piece of land the sorts of undertakings you're making on behalf of other financiers and yourself aren't as great and bearing in mind we're learning about our own technology and its risk as we're going and it is very much different in a business model to a landfill.

So I'd agree with you, Peter, on those points: we require a certain scale to make it worthwhile for us also to invest and it is very much in the scale of other, you know, power stations, gas infrastructure, these are - Eastern Creek was in the order of $100 million, our undertaking in Lancashire will be 5 to $600 million. I think the Narrows Bridge cost $100 million and was a duplication with the state level infrastructure. Gas-fired power stations are much smaller than that and deliver a service which arguably is as important to the community as waste. So the mindset isn't there if we're dealing at the moment with local government, we would like to see it elevated to another level or at least for measures to be put in place such that state government or some level of government would get involved in an advisory capacity with their treasuries. For example, there's the Partnership of Victoria Group in Victoria and treasury which does get involved in a very sort of hands off consulting basis in these types of contracts but at least they're engaging in lending their expertise.

We would like to see them, at least as a first step, sitting on tendering panels, getting involved in the financial evaluations but also that mindset is starting to come where some of the externalities at least are included in tendering and valuations such that we're not really up against the cost of land plus transportation as the only measures that are being imported into the cost of landfilling versus a facility like ours. But, as I said, entering into one of these things we look for a certain scale, we look for certain undertakings that can be made to us that give us confidence that a certain volume of waste at a certain price will be delivered over the long-term not for some sort of five-year type period. The other point Peter touched on which I agree with is trying to bring in some sort of standardisation of these procurements such that when we come to them we're minimising our transaction costs and that would lead to I think greater and wider participation from our competitors also, if they didn't think that they needed to spend millions of dollars in order to pursue an opportunity which might be worth in MPV terms, you know, only 20 times that, 40 times that, over 25 years.

So we agree with that and we'd like to see things done in that regard and indeed other places that I've looked at myself for this technology - like Singapore and Hong Kong, Beijing, Shanghai - deal with it at a city-wide basis.

MR WEICKHARDT: Okay, thank you. One last question from me: New South Wales Department of Environment and Conservation told us on Wednesday, I think it was - certainly in Sydney - they told us that they had set the ramp up of the levy in New South Wales on the basis that they understood this was what was necessary to achieve their recycling target, 65 per cent I think. In your view is the levy at its right level to achieve that target, or do you think it's too high or too low?

MR EGGLESTON: Our view is that levies generally are a fairly broad instrument and they're useful and in fact apply in most parts of the world. Our view is that a levy in itself may not be sufficient and we point to the UK experience where they do have a levy. It's currently set at about 18 pounds per tonne and it's increasing annually at 3 pound per tonne per year. But in addition to that of course they have the cap and trade system which puts in place some very strong incentives and some very strong financial disincentives for councils who don't meet their targets.

So our view is that there is a rightful place for levies. We don't believe it's currently at the level that will make a difference. We do think that it needs to be set in such a way that it does actually encourage the movement towards resources of recovery and doesn't lie across, you know, indiscriminately.

MR WEICKHARDT: Sorry, can you clarify that?

MR EGGLESTON: Well, for example, the application on the alternate daily cover is actually for us a penalty for actually processing it, and hence we will move away from that. So it needs to be very carefully targeted. But our view is that we would look to other instruments - particularly market-based instruments such as the cap and trade system - to accelerate the move towards resource recovery.

MR WEICKHARDT: All right. Thank you very much indeed for your submission and we await with bated breath the answers to the queries about the IT Nolan study.

MR EGGLESTON: Thank you very much.

MR WEICKHARDT: Thank you. We'll adjourn now for morning tea and we'll resume at 11.15. Thank you.

MR WEICKHARDT: Okay, we'll now resume the hearings and our first participant is Bob Paulin from the Department of Agriculture WA. If you could just introduce yourself and your title, please.

MR PAULIN: Bob Paulin. I'm a senior development officer agronomist with the WA Department of Agriculture. I'll just perhaps note that I did make an earlier submission and have actually resubmitted; partly because when I - because of time lines I initially prepared this presentation as a personal representation with my foot in many camps, but over time it really - I guess I felt that it was better if I represented the Department of Agriculture. So I have had opportunities to ensure that the paper has been thoroughly examined, et cetera, and it was deemed - and I agree that it was probably appropriate that I made less emphasis on the need for policy change, particularly within agencies that are handling issues that are outside of our gambit; certainly outside the gambit of our minister.

MR WEICKHARDT: Right.

MR PAULIN: So that amended submission has been passed on.

MR WEICKHARDT: I'm not sure I'm looking at the amended - - -

MR PAULIN: You would be looking I think at the original one.

MR WEICKHARDT: This was dated 20 February?

MR PAULIN: Yes, that would be the original one.

MR WEICKHARDT: That would be the original one, okay.

MR PAULIN: Look, there's very little change to the actual content.

MR WEICKHARDT: Okay.

MR PAULIN: Just really a little bit of wordsmithing.

MR WEICKHARDT: All right. Thank you.

MR PAULIN: We started work back 10 years ago and the objectives of that work - and pretty much still the objectives - were to look at how we can improve productivity for our agriculture, and specially the horticultural industries, and also help them to address environmental and community issues associated with their activities, and also to contribute to the development of a sustainable market for organics/organic wastes.

The changeover in that time really has been a shift in focus probably just from looking at the agronomy associated with using compost to looking in fact at the associated impacts on soil quality, soil organic matter. So the basis of our presentation is certainly about organic recycling and sustainable - and in fact sustainable community, because agriculture certainly has some pretty important impacts on the overall community, and it's about achieving zero organic waste.

Just as an overview, a stylised picture if you like of Perth, but it could be any city: aquifers; ground water; confined, unconfined water bodies, be they large rivers, et cetera; a range of activities associated with the cities, and basically of course two-way streams that are of interest; reclaimed water, which we've traditionally tended to pump out into the ocean, and organic waste which we've landfilled and now increasingly of course we're focusing on what we do with those materials. The basis of my presentation throughout will be that we do not incinerate those materials unless we absolutely have to.

Composting or related activities which treat organic materials and make them safe for application of land has been the focus of our work, focus of my activities, and of course in dealing with these industries and these activities around our metropolitan areas, and in fact indeed within our state, there are a range of environmental concerns associated within terms of agriculture that largely deal with nitrification but there are other issues as well. The reality is that they're all managed by improving soil organic matter, improving soil quality, and of course the reality is that compost and recycled organics is an excellent source of that material.

The other important issue which I do want to touch on is the importance of the linkage between urban and rural areas, and the reason for that is our increasing focus on the need to manage waste, and especially organic waste of course, but the production or security of our ability to produce fresh food; commerce, which is a range of things - tourism being probably one of the most important, but these areas do provide alternative forms of employment - and maintaining environmental values.

I think a fact that we often overlook is that viable rural areas are usually built around viable agricultural activity and if you've got that situation or that scenario then you have the opportunity to in fact effectively manage environmental issues as well. So at the end of the day what it's really all about is that the so-called problem of organic waste is in fact really - well actually provides solutions to a lot of our problems. So the key to developing of course is to manage soil, to look at better influencing its quality, its health and its fertility.

Now, in developing this presentation I've basically looked at the issues around organic waste and healthy soils and I've really dealt with them as four considerations. Initially I actually called this Strategy and Policy. The reality is, as I've said to you in my opening remarks, it's not really appropriate for our agency to be telling other

agencies and other areas of government what would be appropriate policy. It's more our role to point out the issues and clearly for them to establish the link as to what changes they might need to make.

So promoting organic recycling is really at the heart of it. The agricultural market development in our view all through was that this was a potential resource for the development of better, more sustainable agricultural production systems, looking at the importance of organic waste collection and management; how it's actually delivered to the processing operations of the recycle organics industry and the issues of land use planning which I alluded to in some of those earlier cartoon style diagrams.

Soil quality and organic matter: at the end of the day, as I've said, history is littered with civilisations that because their agriculture has outstripped the capacity of the soil to maintain soil productivity have in fact - well, this has resulted in their demise and we would do well to remember that in our future activities and our future planning processes. As I've said several times, organic waste in fact potentially equals soil organic matter, and it is in fact the way in which we can handle those materials and put them effectively on to our soils to improve the quality of them and it's very important.

One of the issues that I have been quite heavily involved in has been the development of minimum standards for recycled organic products, the basis of this being that we actually, through the minister for environment - a committee was established to look at minimum standards for MSW compost because those were seen by a number of community groups as posing considerable threats. It seemed pretty obvious to us - it's certainly been obvious to me for a long time, but for the people on that working group, that we shouldn't just simply set standards for recycled MSW-based composts when in fact there were a whole lot of other organics which were being used without any restriction and which do from time to time pose quite serious and significant threats.

The issue really is that we need to make sure that the reuse of these products addresses the issues of health in terms of crop from the agricultural point of view, in terms of human health, and of course arguably, and certainly very importantly, the soil health, and the fourth issue is one of bio-security, in that if we simply start distributing organic materials around in various forms there are - it does pose considerable risk for that area.

The other one is matching carbon credits' renewable energy. Certainly in my assessment, and some of my colleagues' assessment, is that the carbon credit situation is not really easily captured in agriculture. Certainly agricultural activities that are more sensitive to soil quality can maintain carbon, but to demonstrate that we're an ongoing sink, if you like, which could accumulate those credits is a little

difficult.

In any case, the real value of getting agriculture to focus on its level of carbon in its soils is really much more about its environmental management aspects and how it will perform in the long term for the overall environment benefit of society. In terms of renewable energy, well, at the end of the say no-one is to say - certainly not my presentation is not to say that we shouldn't be looking at renewable energy from some sources of organic materials, but the reality is if we are prepared as a society to provide credits for people who generate renewable energy then I would argue that we should provide even stronger support mechanisms, which I generally refer to as environmental credits, for the recycle organics industry, because I would argue that the benefits that they offer us are considerably great.

Of course they are in fact the basis of the typical waste management hierarchy. You know, nobody is arguing about the need to avoid and minimise, but the issue about recycling is very important and that's where with organics we need to put extra effort in to make sure that they're safely recycled. Once you've exhausted the opportunities for recycling, we need to look at recovering energy and then we need to look at issues for landfill.

The agricultural market development is in effect - and certainly from the work we do - focused on horticulture. Horticulture is the intensive industry's vegetable production, fruit production, ornamental horticulture, those sorts of things. They are usually strategically located close to urban centre which are generating large amounts of waste. So they provide a whole range of environmental transport cost benefits, et cetera.

The reality of all the work we've done is that the financial benefits - there are financial benefits in using compost, even at the current pricing structures. Generally it will increase returns. But the real issue is those benefits are generally quite small and one of the arguments that we have is that we need to find ways of reducing the cost of compost and some ways of doing that would be through rebating its use by the actual farmer, not the current system where rebates tend to get swallowed up in local government and people who are actually the middle man in the whole process, and by the extension of extended producer responsibilities where you shift more of the cost of making compost or providing compost to the actual generator of the waste rather than expecting the end user to pick up the tab.

The reality is at the moment that safe to use recycled organic products are uncompetitive. One of the classics really is things like chicken manure which are available in many areas in very large amounts and very cheaply. To an average farmer around Perth metropolitan region, chicken manure would be available at probably around a third of the cost of compost, and its performance characteristics and one thing and another are certainly going to drive him to use chicken manure and

not compost.

We need to stimulate greater product differentiation and the problem has - and the criticism I guess of the process to date has been - it's largely driven by the need to take organic materials out of landfill, but there's been very little effort, and the recently completed National Compost Road Map Project really highlighted this. There has been very little and when you look at the policies and actions, et cetera, and interventions around the country, there's very little that's focused effectively on developing the market.

So we have created this disconnect between what we've been doing in terms of recovering organics and what we've been doing in terms of market development. Production differentiation is the really critical issue because at the end of the day these markets have very specific needs, and unless you can create a product which will work for them, you haven't got much hope of selling them large quantities. We need to develop a different focus in our research and development. We need to focus on how we maximise the benefits to the farming community and that really means working with them to see how they can change their management practice, and this comes back to the emphasis on the soil quality.

If we can find ways of changing management practice that further increased the benefits that they get from using compost, then of course that will improve their bottom line and provide the driver for them to use those products. Selection and management: I am an absolute supporter of soil separation and the principles of soil separation; that is, as I'm sure you're aware, simply making sure you collect the organic waste as close to where it's generated and maintain it in that form until it's delivered to the final process.

MSW composting as I've tried to say, and I emphasise, does have a place. There is a lot of organic waste at the moment that we cannot manage in a source separated sense and we have a lot of these materials. So MSW composting certainly has enabled us to recover more material. But really that's where the problem lies. There are process and contaminant limitations to these materials. The process limitations are that the nature of the material is fairly well fixed and it's often quite hard to process in an aerobic composting sense and therefore needs a lot more input and a lot more effort to successfully compost it.

The contaminant issue is potentially the most important one. When a contaminant comes into an MSW stream you're probably likely to have to close the whole thing down. This has happened in the US and in New Zealand where the group of chemicals of which clopyralid was the main one. If you've got soil separated streams you can probably quickly identify where the contaminant is coming from and you can isolate that stream out of your compost or your recycled organics industry operations and continue.

MR WEICKHARDT: Can you just amplify what the issue was in the US?

MR PAULIN: Clopyralid was a herbicide that's particularly damaging to solinatious crops, which are things like tomatoes, potatoes, those sort of crops, and at concentrations as low as one part per billion have significant impacts on those crops. Added to that, it's quite resistant to decomposition in the natural environment and even within the pressure cooker environment of aerobic composting. So it caused serious problems and of course other chemicals, et cetera, could have the potential to do that into the future.

MR WEICKHARDT: So where had that entered into the composting stream do you think?

MR PAULIN: In the US situation, and certainly in New Zealand, a lot of it was actually coming out of the domestic situation where herbicides were being used in domestic situations, but also being used commercially.

MR WEICKHARDT: Okay.

MR PAULIN: So they were coming into the organic waste stream, into the MSW scheme, and certainly in the US it is documented they actually wound up shutting down a couple of large MSW - - -

MR WEICKHARDT: So mainly householder sort of use of these - - -

MR PAULIN: It was my understanding that was the main source of it because in actual fact most agricultural residues, crop residues, tend to be re-incorporated back on site rather than moved away. So, yes, it was the domestic - - -

MR WEICKHARDT: Okay.

MR PAULIN: We need to also ensure that it's product performance that drives consumption, and this comes back to MSW composting. Generally the cost of these products are not reflecting the actual cost of production, whereas the majority of the recycle organics industry are having - the costs of their product has to reflect the full cost of production process. So we've got a situation where these products will come on to the market at very low cost and we've got a fairly immature market for recycle organic products that is really unable to make good decisions about quality versus price, so they naturally go for price.

MR WEICKHARDT: Why does the MSW product come onto the market at very low - - -

MR PAULIN: Well, the tendency is - and everything I understand about it is that its price is subsidised by the internal process of collection, levy collection and centre for recycling, which enables them to manage a lower cost product but still maintain - you know, I mean, their bottom line is still important to them but these products are either given away or provided at very low cost, whereas, as I say, the normal - or the conventional recycle organic industry doesn't have that ability to manage their cost structure.

Really coming back to the contamination issue is that we could usefully look at ways of including biological degradation in our processes of chemical registration, such as in the registration process for pesticides, and it's not that I'd suggest that we ban materials but at least if we understand what their potential risks are, then we could sensibly put some restrictions on where they're used, what industries use them, and those sorts of things, and help avert those sort of problems. In a sense that sort of process, of course, can work in favour of the MSW composting in making it safer and probably a bit more viable into the future.

Land use planning: we really need to better manage the urbanisation of our rural areas. There's typically - and I really talk with experience in Western Australia, but certainly some involvement elsewhere as it seems to be the same process. Rural lands are usually regarded as a land bank for future city development. In many senses that's fair enough because we haven't really thought about the role and the importance of rural areas, and nowadays with the changes that are occurring, with our focus on waste management - not just the solid waste organic waste management but also reclaimed water - we're beginning to realise that these areas are actually very important because they will enable us to effectively reuse these materials.

The other issue that is perhaps really even more important in an economic sense is that when we invest in the infrastructure to divert particularly things like reclaimed water back to these agricultural areas, we hardly want to be in a situation where in 10 or 15 years' time we're going to be putting houses on and having to rebuild all that infrastructure, because it is very expensive. So we need - really it's happening, is that we need this new focus, if you like, on the importance of land-use planning and the relationship of agricultural or rural areas to our cities.

So the current approach is we're doing it right now because at the end of the day, certainly in Western Australia, we've had a statement of planning policy for productive agricultural land in place for a number of years. It's not working, and part of the reason why it doesn't work is because we're still stuck in the paradigm that I alluded to before of really these areas are just simply for building houses on and property developers can make a lot of money out of it. I guess though as an aside we probably should think if property development was making money out of after all a natural resource, they should be paying a resource rent much the same way as most of our mining industries and that sort of thing are as well. It may be one way of

managing it.

But the current approach reduces the incentive to improve soils. Now, this has been brought home, I think, certainly by some presentations I've had the privilege of attending overseas, especially in the US, where they have really shown that when you deal with industries like viticulture et cetera which see their ownership of land as being long term, then they are more prepared to invest in the quality of that land. When you've got our industries here on the periphery of a city, you are simply seeing the new wave of the city coming up over them and it's going to swallow them up and they're going to make some money out of it, of course, at the end of the day, they are very unwilling to consider making capital investment in that basic resource.

If this process continues, of course it does increase the cost of our waste management because we have to move materials further and further in order to utilise them, and that process in itself, of course, favours the energy recovery direction. So at the end of the day, recycling organics has economic, social and environmental benefits, not just for agriculture but for the whole community.

I guess I'd like to finish off to say that at the end of the day, going back to what I said at the beginning, we are what our soils are, and we should always remind ourselves that the quality of our water is very much related to the quality of our soils and, in fact, the quality of the water really reflects how well we're managing our soils, so there's some saline considerations there for Australia in many aspects of our agricultural premises.

Agriculture, of course, is vitally linked to soil. There is talk about things like hydroponics and high technology industries and we will do everything inside buildings. Look, at the end of the day, of course we will for certain types of products, but at the end of the day if we really want to keep quality of food, prices down, those sort of things will only be a minor part of the operation and, of course, the community itself is totally dependent on our soil, if only it's because of the food that our agricultural industries provide it with and, of course, the opportunities that those agricultural industries provide the community with sustainably managing its organic residuals.

I would like to make a point there too that in terms of considering these issues there is, in my opinion, a significant disconnect in how we deal with managing waste streams. We tend to isolate the urban waste streams and forget about the agricultural streams, and the issue is really the agricultural industries are very important for managing their own waste, and processes that enable us to deal with both those waste streams together have added advantages because it comes back to those arguments about source separation. You make good compost, you have more flexibility in your management if you have access to a range of different feed stocks.

I always go back to my dear old mum who used to love making cakes. She never used to mix up all the ingredients before she went and made the cake. So at the end of the day having access and access to agricultural materials, and often those are manures which are high nitrogen and are very important and can be very useful additions to the overall process. Of course, this whole process is not really going to work unless we can do it within an environment of a more secure land tenure and, of course, associated with that greater security for capital investment needed in these processes. So I guess at the end of the message, it's about creating a more sustainable society. Thank you very much.

MR WEICKHARDT: Okay. Well, thank you very much indeed, Bob, for a very interesting presentation. With the issue of the value to a sort of a farmer that has a long-term view of the benefit of their soil, I mean, some people have put to us that farmers are short sighted and deplete soils and really you're only thinking, you know, sort of a year or so ahead. I have to say from the farmers I know, there's a lot more thought and consideration about, you know, the longer term, and a concern about, you know, sustainable management practices. If that's the case to those sorts of farmers who perhaps aren't thinking about selling out to the next development, are the benefits of correctly prepared compost sufficiently great compared to the alternates, whether they be chicken manure or, you know, some other product? Are the benefits of compost sufficiently great and demonstrable that you are confident that there will be a market pool here?

MR PAULIN: Look, if we are better able to show how farmers can not just use - you see, part of the problem is that they tend to treat compost like a fertiliser and a lot of other inputs, it's a single item which they enter into their scheme and then at the end of the day they look at their bottom line which is a short-term assessment. You know, you plant your crop, you get your crop out, and you look at the economics of the changes you made to your inputs.

The real benefits are probably in looking at actually making some subtle changes to the overall process, because at the end of the day it's about how much carbon you can build into soils. The more carbon you get, and a lot of our work focus has shown that we can start to manage nitrogen very effectively by repeated use of compost and building organic nitrogen supplies and then making sure that the quality of compost is such that we'll get good mineralisation of those reserves, and especially in the early stage of crop life that's very important because it tends to ensure against rainfall events which wash fertiliser, nitrogen away and all those sort of things.

So there are some very real benefits, but there's a lot of work to be done because the compost industry, as I said, are really not particularly well geared to producing these sorts of products. There are individual composters, but overall it's difficult to get the sort of compost which would create those benefits. So that will

create - if you do those things, that will certainly drive the market better. At the moment we would argue in vegetable production as long as compost is reasonable it is economic to do it, but the issue is they need to make adjustments to their fertiliser programs for example. See the cost of a typical application of compost can usually reduce their fertiliser cost by about 50 to 60 per cent based on cheapest fertiliser alternatives which is significant, then small improvements in yield et cetera are likely to create a positive outcome.

In certain times, certainly when other management issues go wrong, which happens, unexplained climatically, unanticipated climatic events, you get events which cause the crop to go through a period of stress through lack of moisture, lack of nutrients, then when you're using compost you can get quite massive improvements in outcome, but they only happen relatively infrequently and they're very much related to the farmer's skill and all those sort of things. Perhaps the onset of greenhouse problems may well, you know, exacerbate.

So at the end of the day the farmer has to make adjustments to his fertiliser practices. Many farmers are relatively unskilled at that. They don't easily make adjustments. They have a program, it's not easily adjusted for them, and the other issue for them is that they have to make other changes in their process, in other words, they have got to deal with a relatively expensive product. It can typically in vegetable production at the rates we talk about will cost in the order of 8 to 9 hundred dollars a hectare to apply compost.

MR WEICKHARDT: To apply.

MR PAULIN: That's applied. Chicken manure they will apply at around a third of that cost. Chicken manure provides a consistent source of nitrogen for them which is really that important bit in the management practice. So why would you use compost, have some uncertainty as to how well it's going to actually function for you in terms of crop development, and pay three times the cost you would for - it does not make sense. No matter how good your feeling is about the environment and everything else, a farmer is like everyone else, he's a businessman, he has to survive.

So these are the issues that we've got to focus on in a much more strategic sense than we've been doing in the past. Part of the issue with the energy process is that, you know, the renewable energy industry says, "Well, you guys can't - you haven't got a market for compost." The reason we haven't got a market for compost is that their processes are driving organics out of landfill at an inappropriate rate, and we aren't able to develop those markets fast enough. We didn't start early enough in the processes really but that's - - -

MR WEICKHARDT: Are you convinced that if the right adjustments are made by the farmer and the right technology is applied, that - - -

MR PAULIN: We can do it.

MR WEICKHARDT: - - - benefits of compost over chicken manure are sufficient to overcome the sort of cost disadvantages and things of that sort?

MR PAULIN: Yes, I am, but I believe that a much better approach would be to use some other instruments as well, and one of those is like establishment of minimum standards. I mean, after all, at the end of the day chicken manure contains a number of particularly serious human diseases which can, despite what the industry says about best practice et cetera, they can enter the food industry, so food quality is incredibly important. We would be better off, and there are some levels - because it's a single source material there can be high levels of certain other additives in there which are not particularly good in the environment. Because we've historically used chicken manure and animal manures and other things in this way, we've tended not to consider them in our overall planning process.

If we look at minimum standards you would have to start lifting the cost of chicken manure, and we as a society at the end of the day would have to bear the cost, and we can do that either by shifting more of the cost back onto the waste producer, which I believe is probably the way we should go, rather than simply shifting it on the farmer and saying, "Well, you've got to make all these changes so that you can use this product." My view is we should be working at both ends.

MR WEICKHARDT: Why is chicken manure fundamentally so much cheaper to apply?

MR PAULIN: Well, because manure simply is a by-product of the chicken industry and, or course, our consumption of chicken goes up enormously and we battery farm it so it's a large resource and they do absolutely no processing, they simply collect it and, in fact, around Perth and I'm sure in a lot of other areas, the material is virtually moved straight from the broiler sheds, from the production sheds out onto the farm. So all your cost is associated with is picking it up and moving it.

MR WEICKHARDT: Maybe I misunderstood, I thought if it was delivered free to the farm gate in both cases, I thought you were saying the compost cost more to spread.

MR PAULIN: No. It's the total cost. It's the process, you know, there's an old argument in the industry, every time you pick up a material and put it down you double the cost of it sort of thing, and in composting you do that a couple of times compared to the chicken industry.

MR WEICKHARDT: Right, okay. Now, we've had a number of people present to

this inquiry who have talked about the benefits or the deficiencies of different modes of making compost and wind-row compost as opposed to other methods of making compost and greenhouse gas emissions and methane emissions. Do you have a view on any of that?

MR PAULIN: Yes, I do. Basic composting is a natural process. It involves managing things like moisture contents, oxygen levels and temperatures. Now, whether you do it in a wind row situation or inside some very sophisticated composting technology such as - I'm just stuck for the word - but the bedman is the system which you're actually, you know, enclosed that source or whether you use static piles and draw or suck air though is really immaterial and should not be allowed to be an excuse for making an inefficient or ineffectual compost. It's a management issue, and the decision as to which way you go should really be based on how you manage a whole lot of planning requirements, odours and all those sorts of things. Absolutely - - -

MR WEICKHARDT: You believe you can make good quality compost by different routes.

MR PAULIN: Yes.

MR WEICKHARDT: What about the environmental impacts in doing so, you know, the greenhouse gas emissions and things of that sort? Greenhouse gas emissions, some people have put to us that in the anaerobic processing vessels, this is to be preferred (a) because you get higher temperatures that kill off weeds and - - -

MR PAULIN: No, the aerobic process is that creates the temperature. Anaerobic is usually a cold process.

MR WEICKHARDT: Well, I don't want to try and go into the detail of this, but I'm just saying that some people have put it to us that there is more consistency in the processing vessels, it gets to higher temperatures, whether external heat is applied or not - - -

MR PAULIN: Fair enough.

MR WEICKHARDT: - - - and that you capture methane and there's less greenhouse impact.

MR PAULIN: But there are also problems in a lot of these in vessels, especially when they're composting single waste streams, is that they have much less ability to manage the process because they can't control - when I said the critical aspects, the other one is what's called the carbon to nitrogen ratio, and you manage that by feed stocks. Aeration you also manage by using materials of different porosity. So

they're very important in actually enabling you to manage it. You can do it in any of those processes.

When you talk about digestion and methane recovery my simplistic argument is that what we need to do is if we focus on managing the qualities of our soils. We need to take as much of the entrapped energy that's in organic waste and put that back on the land, because that energy, after all, is the fuel for biological activity in our soils. Extracting some of that energy, whichever way you do before inevitably reduces the value of that final product in terms of its role in what we're trying to do with the soil. So as a principle I don't accept it, but in terms of managing certain types of waste streams and certain situations, then these processes can offer a viable alternative, and I would not deny that.

MR WEICKHARDT: Because coming to the point you made earlier, those processes that do generate methane in vessels, in some cases use that for power generation and then get EMRETs and so get some of these greenhouse credits that you were talking about.

MR PAULIN: Yes, so there's some distortion in the economics of the overall process. One of the things that is important also with digestion et cetera, you do wind up with a residual and then that residual needs to be reused and often that game is, "Well, we'll simply compost it," but you need more energy usually to effectively compost those materials, so there are all those sort of, you know, it's the whole life cycle assessment of energy values and that that's important.

MR WEICKHARDT: Is the Department of Agricultural in Western Australia working with farmers to educate them about compost and its use and how it can, if correctly applied, have some real benefits?

MR PAULIN: Yes. I would not say that our program is as large as it should be, and that's really been my central role within the department has been to stimulate that process, but certainly we are putting - you know, they've been funding my work and a number of other people that work with me and I understand that that work will increase into the future.

MR WEICKHARDT: We've had it put to us that part of the problem that the compost industry has is that some product that doesn't meet a lot of standards, either for heavy metal contamination or particularly for contamination with glass and plastic and stuff like that or pathogens, it is being applied and claimed as a sort of a landfill diversion and that the current levies have actually incentivised that in some cases. People - I don't know whether it's convenient because they are on the east coast pointing the finger at some applications - - -

MR PAULIN: Somebody else, yes.

MR WEICKHARDT: - - - in the west, and said there are some fields in Western Australia where you've got glimmerings of glass and plastic all through some fields where compost has been applied that really shouldn't have been allowed and has degraded the agricultural value of that land. Are you aware of any situations like that?

MR PAULIN: Look, I'm aware of that, and as I say, a lot of that internal industry politicking going on as well, of course, but, look, yes, there are and that's really my point. One of the critical things is about establishing minimum standards. The Californians - I mean California is interesting in that it probably leads the world in terms of diversion of organics back onto the land. I think we need to go further than they have done but certainly in terms of their composting industry - and after all our composting industry is licensed, but the composting industry in California is licensed and it has to show compliance to minimum standards which are established, and we don't have that. That's the thing that's missing here. The other argument I would have is, you know, for all the other broader strategic reasons, we should expand that process not just to compost, but to all organic materials that are applied back to our land, because, you know, it does come back at the end of the day, you could argue that, in fact, our soil is our most important resource.

MR WEICKHARDT: Right. In terms of the sort of the clean green image you talked about that we have for agriculture, do you have a concern about the origins of the compost that are used in agriculture and whether or not that risks either for objective reasons or for perceptive reasons, you know, somehow our sort of image as a clean green agricultural producer?

MR PAULIN: Two parts to that I think. I don't have any concern providing we are effective when applying minimum standards, and that's the purpose of minimum standards. But I have to recognise and I think we all do, and certainly my involvement with the recycled organics industry and with the agricultural industry is, yes, there is some concern, and we need to be sure that whatever we do will not impact on our markets. Now - and there are a whole range of products. I mean, one of the reasons why things like biosolids don't get used in food production, they tend to get used in broad acre production and those sorts of things.

I would argue from a theoretical point of view that there's no reason why biosolids aren't an excellent potential source of making compost. They contain nitrogen, they're consistent et cetera, and the issue about contamination is you can manage contamination simply by dilution, and so the composting process affords you that wonderful opportunity of bringing different streams together, blending them so that you, in fact, meet whatever standard you've got for the use of that, you know, to meet the minimum standards. But as I say, I have to emphasise that there are some sensitivities and we need to work our way through them, so in the short term they can

be constraints but in the long term they should not be constraints.

MR WEICKHARDT: Okay. Well, thank you very much indeed. This is an area that I wasn't sure this inquiry was going to take us into. We've had a lot of submissions from the compost industry and it does genuinely seem that there's an issue. As you said, a lot of waste has been diverted from landfill, ended up making a product that nobody is quite sure of what to do with.

MR PAULIN: What to do with it, exactly.

MR WEICKHARDT: Okay, thank you.

MR PAULIN: Thank you.

MR WEICKHARDT: Now, we'll just adjourn for a couple of moments.

MR WEICKHARDT: We will now resume. Our next participant is Mr Andy Gulliver from Custom Compost. If you could just give your name and position and then if you have got some introductory comments to make, that's fine. We have received a submission from you which I have had a chance to read.

MR GULLIVER: Thank you very much. My name is Andrew Gulliver. I'm director of a company called Custom Composts which is a commercial processor of organic wastes in Western Australia. I am also co-chair of Recycled Organics (WA) which is a special interest group within the Waste Management Association, the WA branch. Today I'm here in my own right but I will talk about the initiatives that have been taken by Recycled Organics (WA). Thank you very much for the opportunity to do so. I am aware of other submissions and don't intend to repeat submissions that you received from others. I'm aware of the sorts of things that the previous presenter would have talked about.

What I plan to do is give the commission a WA perspective and also condense my presentation to probably three key areas which I think the recycled organics sector needs to address if it is to make progress. I will cover in my talk ESD or ecologically sustainable development in a policy framework at a high level, how things fit into the big picture, talk a bit about ROWA or Recycled Organics (WA), four key strategies that it has developed over the last year and a half, goals as part of that strategy as supported by an action plan, the outcomes of ROWA as a group which developed in the last 18 months, and how the activities in WA can be integrated with the activities going on around Australia and that's why I actually believe there is a real opportunity for this sector to move forward in leaps and bonds in the next five or 10 years.

I will also cover very briefly a draft position paper that ROWA is developing and look at collaboration and synergies around the country. If I come back to WA for a moment; WA actually does have a state sustainability strategy and it has been an interesting process to go through, probably the first state to do so. It has made government agencies business and the community rethink about the way they go either about their business or their activities. It has provided a framework into which we can slot our thinking. I don't intend to go into the state sustainability strategy because I'm sure that's available to the commission.

Interestingly in the state sustainability strategy there are mentions of zero waste; a state water strategy to which recycled organics can make a significant contribution; community values and that goes to the engagement of community in any process of developing an industry sector and something which I think we need to address; planning, and I give an example of SBP2.5 which is a statement and planning policy aimed at protecting agricultural land and I believe it's important that we take a more holistic view of the way we address planning in society to balance not just the needs of the waste management resource efficiency but how that fits into

the whole of community activities.

Also the state sustainability strategy mentions financial incentives and I think it's important to give some consideration to how we do invest public moneys to address potential advancement of waste management in Australia; and finally I mention the greenhouse offsets which I don't intend to go into detail because obviously other people will have done so. If we look back over the last couple of years there has been lots of activity around Australia and three organisations I would like to mention, one is the Waste Management Board in WA; that in 2004 published its strategic directions document which was followed in 05-06 by priorities and a plan.

Compost Australia, after an industry forum in August 2002, eventually enlisted or engaged the support of AusIndustry and the Barton Group and the Compost Roadmap began. Once again I don't intend to go into that in detail because you will be aware of that. The results of that were launched in Canberra this year. Concurrently with those activities the recycled organic sector in WA has been working on its strategies and plans and that started from a workshop back in 2004 attended by a wide cross-section of the community, 80 people at that time, and a working group was put together which developed strategies and an action plan over the intervening 18 months.

Thinking about ROWA, or Recycled Organics (WA), the organic waste stream in WA, there is in excess of a million tonnes of organic waste being recycled in WA today so you could argue it's already a successful industry. There is a question though over government attempts to grow a market for new sorts of organic waste diverted from the waste stream the effects that those attempts may have on the existing marketplace. The process that ROWA has been through has been a stakeholder workshop, a working group, and the establishment of ROWA.

ROWA is established under the auspices of the Waste Management Association WA branch; you can see then links to the branches of Waste Management Association are the states and thereto things like Compost NSW, Compost Victoria and so on, so a network is developing. It is important for the industry to have an organisation that provides a firm foundation if government is to have any policies to implement.

There needs to be a structure in the industry. I believe that structure is actually being put in place and properly managed will serve the industry well or the sector well in the next five to 10 years. That's actually why I feel very positive about the future but I think there are a few certain things need to be done to capture the potential that we have developed in the last couple of years. Briefly talking about the functions of ROWA it is a body that represents, promotes and supports the RO sector in WA. Its objective is sustainable growth and development of the RO sector.

In fleshing out something like 75 resolutions and draft papers from the workshop we eventually condensed that down to four succinct strategic areas of activity. These were to develop a strong organisation and that goes to providing a foundation to work from and the foundation that has administrative capabilities, dynamic networking, making sure people talk to people. Secondly, to maximise market development, develop clear quality standards, develop and promote policy. So really six key words; organisation, market development, quality standards and policy. I actually believe that it's not just WA that needs that. That works for the whole country and if we simply focused on those six words I believe we will achieve our potential in the next five to 10 years.

So I talk a little bit about those key strategies. What they have done is they have provided a clear focus because once you have got your strategies in place you can then put in place goals and actions to support those strategies. If you like it's a bleeding obvious statement to make but so often in industry development we don't do the bleeding obvious. Our goals for strategy one was firstly to form a body to represent the RO sector. That's done and done quite well even around the country now: to be recognised as the peak body for the RO sector in WA. That's being done in WA, has been done nationally, particularly through the ministerial launch of the Compost Road Map in Canberra and that will be built on.

Thirdly, our goal is to communicate widely and effectively. I won't go into detailed actions in this presentation, those are available in my submission, but it's another one of those basic truths of any initiative and it doesn't really matter whether it's a community initiative, an industry initiative, or government trying to make things happen. We need to communicate widely and effectively. It's the basis of an initiative but it's the thing we always do really badly, and if government were to want to make things work better I would imagine that making sure we have got good communication is a basic principle of any future development.

When it comes to market development we want to develop a strategic marketing plan; develop knowledge and educate the market and then secure funds so we can actually do something. In WA we consider that that is a national imperative and not something that we should do alone. By collaborating, pooling our funds and our knowledge, we will get the synergies and make use of the scarce resources that we have got nationally to put into those to market development, and there will be presentations, I presume, from Compost Australia and so on which may address some of those things as well.

I think there's a clear difference, and certainly in other papers that I have read in doing the research, I think sometimes there is confusion in the sector about the difference between what is market development and the difference between what we want to do next which is develop clear quality standards. Often people think that

having a quality standard - for example, you will be familiar there is an Australian Standard 4454 for the quality of compost. People sometimes confuse the notion of a standard with the idea of marketing. A standard, I think, is important for sector development and to implement minimum standards to protect public and environmental health but also the security of our productive land resources including things such as biosecurity.

That, if you like, gives us the permission of the community to be in business, to be a recycled organic sector, to take waste out of the waste stream and return them to the land. The community needs to know that what we're doing is safe. That is starkly different to the idea of marketing and developing fit for purpose products and so on. I don't think that difference is clearly understood in industry or in the sector.

MR WEICKHARDT: In the compost sector, are you saying?

MR GULLIVER: Yes. Then, secondly, developing guidelines for composting. I don't know that this is as important, this number one, but there must be some basic principles of composting that need to be achieved for a product to be considered to be safe. There are already national guidelines for that and I think a revision of those is all that's needed and that's part of an intuitive process which one would expect in any sector, that you might review every three to five years. If we can do those things we need to promote then continuous improvement as a matter of philosophy within the business and then justify and promote industry self-regulation.

In an ideal world we don't need to soak up scarce government resources in the regulation of an industry. If we have got the marketplace organised properly the marketplace will be setting a standard and the market systems will actually determine who meets it and who doesn't and those who don't will be recognised for not meeting it . I think we could waste a lot of scarce resources in setting up regulation systems which usually end up only keeping the honest people honest as those who don't want to meet a regulation will always find a way around it.

Then finally develop and promote policy. One thing that I have learnt now in the years I have been involved in various initiatives is that unless we actually have good policy none of the rest of the bits of the jigsaw puzzle can fall into place. We need to establish the use of recycled organic products as a priority of government in which case we need to develop the case for the RO sector and promote the recycling of organics to which end we will continue preparing a position paper and so on, and we need to build recycled organic considerations into the future of our planning issues and I refer then to SBP2.5 where we're actually recognising now the link between, if you like, the city and rural.

As a consequence of activities in WA over the last 18 months we now have a widely-accepted, realistic and achievable plan for the future. We have established

ROWA to represent the RO sector. Progress has been made on many of the actions outlined in the plan and the RO sector in WA is dynamic, progressive and a recognised leader in Australia. There is no reason why exactly the same story can't be true in every state and is nearly true in many of the states anyway. Our next challenge is how do we integrate those efforts and get those synergies that are just there for the taking. If only we can get that clear direction.

If we think about the positions that an RO sector might take, I like to keep things simple, and really I think at a high level we need to think about a sustainable society so it really doesn't matter what policy we're talking about. If we're talking about waste generation and efficiency it has to be in the context of a sustainable society. We need a clear policy framework in which I would include standard design and we need market development. Then in that sustainable society we need to build linkages between society and the land. I presume that the previous speaker would have talked about that, and if not, I'm sure it's in his paper to the commission. We need to integrate agency policies and programs within the policy framework.

I have already talked about zero waste and minimum standards but as a matter of national importance we need to recognise the need to build soil health and to protect that productive asset that Australia has. As a major agricultural exporting nation it's important that we recognise that. In terms of market development I think the use of market-based instruments is something we would need to explore. The Compost Road Map talked about market push and market pull through the supply chain.

The Waste Management Board in WA now will cease the rebate scheme to local councils, is seriously now considering raising the landfill levy and submissions for these changes close tomorrow, and is seriously entertaining its preferred position to actually reinvest those funds not in a push mentality of causing diversion from landfill which effectively creates a pile of stuff which is an above-ground landfill but actually creating pull through the system by giving rebates to end users of recycled organic products.

I believe that will happen in WA and if it would happen all round the country that one thing would be a huge driver to actually making efficiencies in that supply chain. RO product quality; I don't intend to talk to in detail other than to acknowledge that there are quality development programs under way in Victoria which we are obviously participating in and will collaborate in. Education and research, feedstock quality; I'm sure that has been addressed by others. So if you look at the sort of collaboration and synergies, and this is my final slide, going on around the country, we clearly have shared values and objectives around the country, and having gone through a process now over many years of working out clear strategies, I think we have shared enough ideas, had enough debates around the country that we have those shared values and objectives.

We understand we need to develop policy and I am optimistic that one of the results of the commission will be to highlight the need for policy and policy alignment around the country. Working with different jurisdictions and different policies around the country hinders the RO sector development. Reinvesting the landfill levy; the current review, I have talked about. Market-based instruments; so rebates for recycled organic products; stop the push mentality and create market pull will make a marketplace start to work. A national seal of approval scheme is the one I referred to in Victoria.

The AS4454, which is our set of minimum standards, is actually up for review and is happening, and I think we need to encourage that, and we have a national project manager driving and coordinating programs around the country. At this stage Victoria, New South Wales and WA are committing funds. South Australia, we believe, will commit funds, and Queensland we're not sure about yet, but those things are starting to come together. I would actually be very optimistic about the future. The work that has been done to date is basically done through agency offices or volunteers from industry and the community. I think if we're to make a move forward we actually do need to give support to those structures like ROWA or Compost Victoria and the Waste Management Association just to keep the drive forward. That's my perspective and those are my few key points that I wanted to make. Thank you very much.

MR WEICKHARDT: Thank you, Andrew. You have made a case that this particular sector needs to be converted more to a market pool rather than a producer push which sounds entirely sensible but you have also said that you think some support is required for that to occur. You want some of the levy to be diverted to a rebate on the use of the final product. Is this in your mind a sort of a permanent subsidisation of this industry or are you saying this just needs to kick start it to absorb this extra tonnage into the market?

MR GULLIVER: I think if we truly believe in sustainability it's a paradox to keep putting your hand out for a grant to be sustainable. We could argue that the sector is already working - as an economic model in the marketplace, is already working for a million tonnes. The question arises that because there are new challenges being driven by other policy, so other waste management policy, and a government intent to drive more into that marketplace, which has the potential to disrupt a marketplace, in that case if it was an industry-driving waste into that marketplace the industry would need to allow for marketing dollars to grow a market.

The analogy one would draw is that if government policy is driving material into that marketplace then government needs to make allowance for how it grows the market and invests the marketing dollars, so I don't see it as a subsidy so much as an investment in marketing to grow a marketplace and make sure we have got a real

market working. If that doesn't happen then effectively government is playing exactly the same role as, if you like, a corporate entity flooding the market with product and driving the prices down and destroying the market and so I think it's a question of a short to medium-term investment and once that marketplace is established and functioning, government needs to pull its dollars out because it will have somewhere else to put its dollars.

MR WEICKHARDT: Thank you. The work that you talked about in terms of market development and differentiation and standards, do you see that impacting upon the million tonnes that has sort of been in the marketplace all this time or is it only the new tonnes that you're talking about?

MR GULLIVER: I think it will shake up the existing market because there are clearly recycled organic products going to agricultural use now which may not meet the minimum standards expected by the community and once we focus on this area and we start to think about what are the real standards that we need to protect our productive agriculture resource or to protect our rivers and streams or to protect bio-security, we may find that some of our existing practices in that million tonnes might need to be reviewed, but I don't think that we should be afraid of that, because if we are to take a quantum jump in the recycled organics industry we need to accept every criticism and address it.

MR WEICKHARDT: It was put to us in Sydney that we've got this great stockpile of compost in Sydney but one of the people that runs an AWT in Perth said, "We've got product walking out the door in Perth. The market's there on the doorstep. WA soils need compost." So I guess I'm left a bit curious as to whether or not there are some people who are moving compost and claim it's sort of walking out the door and happy about it because they've tackled this issue of differentiation or specification or are they just giving the product away at ridiculous prices and causing part of the problem?

MR GULLIVER: It's probably a good example to consider. In that case there was the potential for somewhere between 30 and 45 thousand tonnes of material to come on into the market. As it's happen it hasn't come on to the market. The climate has been slower in ramping up to full production. The state government gave $800,000 as a grant to that production site to help develop a market and obviously that plant would have put money in as well. The funds were used to set up trials as demonstration trials but they were also used effectively to give the compost away and pay for the freight. So the marketplace wasn't actually really seeing a real product.

It wasn't a real marketplace working but it was an investment by the government to actually make sure that they didn't just lob a whole heap of material

on the market and totally disrupt the market. So whilst you can criticise the fact that effectively the government was giving 800,000 to one player who happened also to be another government at least work was done to develop the market. So that material wasn't a problem in the marketplace. It found a home and it raised a lot of awareness. Now, the question is that if that subsidy were taken away what would then happen, and I think they would be very confident that they would have enough - having now raised the awareness, they'd have enough farmers who would probably take the material for nothing.

Now, of course that doesn't necessarily help the million-tonne marketplace where commercial operators can't give it away for nothing. They company have to process it and sell it for an amount of money to stay in business. I think there's always going to be that tension between government and the private industry and we need to be careful that government action doesn't distort the marketplace so much that it actually destroys a well-functioning and existing marketplace. Now we've had that $800,000 that's been spent, I think the report's due within the next two months, so basically that money's gone. I don't know that we can make a judgment yet on it.

MR WEICKHARDT: That AWT is actually operated by a private individual, but you're saying - - -

MR GULLIVER: It's the Southern Metropolitan and Regional Council. So it's a combination of six councils.

MR WEICKHARDT: Right, and they're responsible for moving the product are they?

MR GULLIVER: Yes.

MR WEICKHARDT: I see.

MR GULLIVER: They're in negotiation with several people about - what do they do once the grant finishes and they don't get a freight subsidy any more, what do they do next, and I think there'd be any number of farmers who would queue up at the door to take it except that the farmer can only come at a certain time of the year and they're producing material 52 weeks a year. So there become some logistical issues then, but you know, that will sort itself out one way or another.

MR WEICKHARDT: Okay. Is the quality of that product good? Is it providing a good sort of, if you like, demonstration of what can be done with good quality management?

MR GULLIVER: I don't know if it's appropriate to talk inside the commission about quality because it's such a subjective area. How I would like to describe it is

as - - -

MR WEICKHARDT: Does it meet the Australian standard?

MR GULLIVER: Yes, well, so I'm told and I believe so. In fact they have to meet the standard because they're under so much scrutiny. If they do something wrong they get 250,000 ratepayers who are actually going to be knocking on the door. I think it's more appropriate to talk about a quality meeting a certain marketplace. So when we think about markets, one producer might be targeting the growing of lettuce which is going to eaten raw on your salad tomorrow.

Another producer of recycled organic product might be going to a mine site rehabilitation project which is 1000 kilometres away from a metropolitan city and has a totally different need and I think so long as the products are used in the correct market so you don't have a mine site rehabilitation quality product being used to produce, for example, fresh lettuce if that has some issues with it. It's not a question of, "This product is better than that one," it's, "Is the product being used appropriately in the right market?"

MR WEICKHARDT: Thank you very much indeed for your presentation and for your submission. We're now going to adjourn and hearings will start at 1.30.

(Luncheon adjournment)

MR WEICKHARDT: Are you ready?

MS KATSCHERIAN: Okay. Thank you very much.

MR WEICKHARDT: I reopen the hearings now and we have the Department of Health in Western Australia, health protection group, as our next participant. If you could introduce yourself and your title, please, and then if you want to make a presentation that would be great.

MS KATSCHERIAN: Thank you very much. My name is Dianne Katscherian. I'm the manager of health impact assessment within the health protection group for the Department of Health. What I'm going to deal with in my submission is the issues that were addressed in the written submission which were, in brief, the redirection of waste from landfill - just a general overview. We looked at the potential health impacts from wastes; looked at issues associated with planning for waste facilities and the role that potentially health impact assessment could take in that; and then the second part of it was looking at waste generation within health care systems itself and the fact that we have a high-waste role. We have an issue associated with outsourcing waste management and there's also the issue associated with single-use items.

This one is probably just a reiteration of what you've already heard from many, many other people from right across the country, I would suggest, but it's worth reiterating it again in that there are plenty of examples of where many, many local efforts are being made to try and divert wastes from landfill and come up with other alternatives, however, there are differing and inconsistent approaches for this and particularly in Western Australia we have a large lot of approaches. I'm involved with both the state government and at a regional council position and, yes, the approaches can be different at times.

We have very strong state government leadership here, but it's relatively new. No, I won't say it's relatively new. It's one of those things that takes time. What we're really, I presume, and from our perspective - is that there is a need to have national leadership and appropriate policy is required for avoidance of waste generation generally to try and maximise recovery of the wastes that are being disposed to landfill or other methods and also for an ongoing sustainable disposable system.

Where I wanted to focus though was specifically on the health issues associated with waste and there are a number of those and a lot of it is due to the fact that the community have very grave concerns about wastes generally, and I think a lot of it is because of the term "waste". Some items are quite okay when they're new, but as soon as you stop using them they become a waste and then they're potentially hazardous. So there are issues associated with community perceptions. We also

have an increased awareness in the community of issues associated with certain products within other products that are disposed of to landfill or elsewhere and that also maybe raised community concerns.

One of the areas of concern is waste disposal facilities themselves and one of the issues that we deal with in Western Australia within public health is the concerns of communities because of inappropriate location of these facilities, basically because of urban development has encroached on the facilities rather than the facilities have been a problem in the first place. It's really that planning doesn't always take into account the fact that some of these things are already in place and it's also the recognition that some land is better - no, that's probably the wrong word to use - there are opinions that some land would be better used for development rather than for using for waste disposal facilities.

The concerns that are raised are, again, the loss of amenity associated with proximity to these facilities and also the concern about health risks associated with the facilities themselves. There's also potential health impacts associated with management generally and the sorts of things that - the areas where you may get human exposure is through the range of areas where wastes are managed. While we should admit, and particularly with reference to the work that the productivity commission is inquiring about, most of the wastes that are dealt with are relatively benign, but the disposal methods and also the allied mechanisms that go with them have a potential for risk associated with them, and those risks are associated with decomposition, inappropriate mixing of substances, unknown substances - that we don't even know what the risks are associated with them - and the risks are both to members of the public and also employees in facilities that deal with these wastes. So often there is a real concern associated with health.

So if we're planning for waste facilities be that disposal facilities or treatment facilities or even just redirection facilities, we have to recognise that they do need to be relatively close to the generation sources anyway, but they should not disadvantage anybody and in particular vulnerable groups. I think if we were to review the location of most of these facilities they tend to be in urban areas that are potentially disadvantaged already. They tend to be close to low socio-economic groups or areas where people go to because it's the only place they can afford to live in.

What we are concerned about is the ability for development of new facilities to ensure that these groups are not further disadvantages. We know that disadvantaged groups suffer higher levels of health effects, are less healthy, have a whole lot of health problems that aren't necessarily found in other areas and it really is important that those groups be not put to further disadvantage. We also need consistent approaches to approvals' processes across the country, I think, with respect to waste. It's one of those things that the approvals' process in most states are of a very high

calibre and I can assure you that Western Australia is, but it probably wouldn't be a bad idea to have some sort of overarching policy or approach that is taken for something like this that's of a national level.

The only reason we've put health impact assessment in there is because it is a very, very good tool that can be used to protect and improve the health of the community during the approvals' process and because it's an holistic process it allows anything and everything just about to be considered, but it has a very strong focus on equity and ensuring that all people are treated in a similar manner rather than trying to just - actually I'm probably disputing myself here. What we're saying is we're trying to raise the level of disadvantaged groups up to the rest of the population so that everybody is on an equal footing rather than just focussing on a population as a whole which tends to happen with most approvals' processes.

Then the other component that I wanted to deal with was the waste in health care systems generally. Health systems are generators of huge volumes of waste, some of which is potentially hazardous. We have systems in place which limits public exposure to any of those wastes and it's very important to recognise that cross-contamination doesn't occur within the clinical situation or out of the hospital or out of the health care system processes. Within hospitals - I'll come back to that other item shortly - within hospitals some sorting does occur and it's actually quite extensive sorting in terms of separation of those hazardous and risky substances away from general wastes.

I think partly because so much of that already goes on, to then take the next step of trying to separate general wastes out, it's one of the things that might be difficult in hospitals. You have a tin for this and a container for that and needles and so on. So you don't necessarily have yet more containers within the medical system that allows for collection of metals or collection of papers unless it's in an office facility or so on. So there's difficulties within the medical component or the health care systems of ensuring that wastes can be diverted.

I did mention incineration and I realised that you were not talking about biomedical wastes in this inquiry, but we thought it was important to include the issue of incineration only because that is an issue that needs to be discussed anyway. It is an essential component of disposal of highly hazardous medical substances, but the idea of incineration is. to put it bluntly, getting on the nose with the community and yet it is the most effectively way of disposing of many of these wastes. So a consideration of what to do about incineration generally would be a valuable thing to do at a national level as well.

What we were also finding within - we have approximately 70 hospitals or health care systems within the Health Department plus there are also all the private ones - in the regional areas most of the wastes from those facilities where they're not

- the hazardous biomedical wastes that need to be incinerated are actually directed to landfill. So the quantity of wastes across the system is very, very large and we have a difficulty with respect to trying to implement appropriate redirection process - is because there is a whole of government approach to waste disposal for the government agencies and that it is contracted out to particular companies. They do what they can with respect to sorting, but if you've got massive quantities sometimes that's potentially a bit overwhelming in terms of how much you can do.

So this idea of being able to undertake some sort of redirection process may actually be quite difficult for the clinical situation. The other key area is the fact that we use a lot of single-use items. A vast majority of those are plastics and a vast majority of them are thrown away to landfill - disposed off to landfill. So where we thought you might be able to help at a national level is looking at (1) whether or not there are materials around that have low-waste potential - that if we can't move away from single-use items, that we look for items that could be used - substitute what is currently being used that have a lower environmental impact or that they could be re-used in another way. Probably the innovative one, is catalytic thermo-depolymerisation which could be used on plastics, but such a new process is untried in Western Australia. So having a major health care system adopt something like that or another major agency or company adopt one of those may be difficult.

I think from a general perspective it would be appreciated if there were mechanisms to assist with recycling or other diversion systems within the health care system itself. We have found that many of these issues are beyond core business; that our core business is to look after sick people. So to spend a lot of time and energy focussing upon other things that are really not regarded as health are not given the same level of importance and therefore anything that would assist to implement things without having to take resources away from the clinical component would be valuable.

We would appreciate it if industries could be promoted that would treat medical wastes in a different way rather than only incinerating or only disposal to landfill. There aren't a lot of internals at the moment. That was it, thank you.

MR WEICKHARDT: Thank you very much indeed, Dianne, that's very interesting and useful input and we haven't had anyone from a department of health talk to us so far.

MS KATSCHERIAN: That's probably because they're all too busy being clinicians.

MR WEICKHARDT: You raise a number of very important points. The issue of the impact of waste disposal facilities on public health - you itemise some areas where risk can occur. In practise are you aware of some of those risks, you know,

actually being played out and adverse health impacts on companies in particular areas?

MS KATSCHERIAN: In Perth we've had a number of events. I don't know if you know of those events.

MR WEICKHARDT: No, I don't.

MS KATSCHERIAN: There was a fire in 2001 of a liquid waste facility that basically sent 40 gallon drums of unknown liquids soaring into the sky and it was a huge fire. Part of the difficulty with that particular facility was that at the time there was no good place to store or treat liquid wastes. There weren't enough companies within the state and this particular facility was stockpiling in readiness to do things and unfortunately it caught fire. While there were no direct health impacts associated with that, what actually was burned in many cases was unknown, so the long-term health impacts associated with exposure to the plume that arose from that is still unknown.

We also had another facility that ended up taking a lot of liquid wastes, by the name of Brookdale, and some of the studies that were done on that were slightly erroneous but caused a severe degree of concern within the local communities to the point where the minister for the environment shut it down and that's triggered a whole lot of other things that have gone on in the state. For starters, we're now looking at health impact assessment as a means of including health considerations in approvals' processes. We also have instigated a process to look for - to develop hazardous waste precincts which you may have heard about in your presentations, but because hazardous wastes - you're not dealing with them, you may not have.

So we're going through a process across government to try and find precincts that will treat hazardous wastes, and that's going slowly but effectively and it should be good. I think these events have caused greater concern amongst the community because their understanding of the risks is not as great as it could be and it's very difficult for them to get - what's a good word to use - outraged about the sorts of things that are going on, because as you know communities just - sometimes it's difficult to be able to get the appropriate information to them.

MR WEICKHARDT: What about solid municipal wastes and landfills? Do you have any sort of evidence of adverse health impacts from any of those facilities?

MS KATSCHERIAN: The biggest concerns we have is that a lot of the previous landfill in the metropolitan area are in highly desirable places and they're now being redeveloped for residential areas and they're regarded as contaminated sites and they have to go through a process of clean up. Now, there are real concerns about what may be exposed during those clean-up process and while there are no direct -

because of the controls being put on components is relatively tight, communities still are concerned that they may be exposed to airborne emissions or other emissions during those clean-up processes and that they don't know whether or not they are.

It is really important that proponents are very open with the information that they provide to the communities, they involve the communities, but sometimes that doesn't always happen.

MR WEICKHARDT: No, I can understand the concerns. I was just wondering whether or not you had actually seen the consequences of this in terms of health studies. You talked about not disadvantaging vulnerable groups and I can appreciate that sometimes because of the encroachment that you talked about that you do get some encroachment on facilities which were originally planned to be out in the never-never and suddenly weren't.

MS KATSCHERIAN: It's very difficult to direct causal relationships between exposure to emissions from a waste facility and health outcome, mostly because people get exposed to all sorts of things in their daily lives and they undertake lifestyle behaviours that may also impact on their health such as poor nutrition or smoking or whatever, so it's very, very difficult, so all we do is try and protect the community as much as we can. The long-term implications of any of the things that have been put in place are yet to be known. Most of the outcomes that you will get from exposure to - well, particularly chronic exposure or low level exposure - takes many, many years to develop so it is a very difficult thing to actually show a direct relationship between. However, we still cannot dismiss it just because we haven't got that hard evidence.

MR WEICKHARDT: Right.

MS KATSCHERIAN: The other component is I have had a fair bit to do with people managing landfill and they're extremely concerned about disposal of unmarked, unnamed substances, particularly liquids, and that they have their employees working under those circumstances where they just don't even know what they're dealing with because people tend to decant, take a big container of XY pesticide or something and decant it into a Coca Cola bottle or something like that, so there is often the risks for landfill operators and their employees are there and they have been very concerned about trying to ensure that they can separate household hazardous substances from the rest of mainstream wastes, but in doing so, they are putting themselves at risk and the public don't necessarily want to tell them what they disposed of. They just put it in the bin and be done with it.

MR WEICKHARDT: Yes.

MS KATSCHERIAN: So again it's very difficult to say that there are direct

relationships between the two but we could imagine that there are.

MR WEICKHARDT: Yes. We have toured around a few facilities since this inquiry started and I must say coming from industry which was an industry which was, some would say, absolutely obsessed with safety, health and environment, but I believe correctly so, I was very concerned to see people sort of manually sorting through waste streams and conveyor belts picking out contamination and erroneous products and sort of risks of needle stick injuries and, you know, sort of exposure to, as you say, unknown materials, it looked a real potential risk.

MS KATSCHERIAN: Yes.

MR WEICKHARDT: At the same time as we're trying to fix one thing we have exposed people to another sort of risk.

MS KATSCHERIAN: Exactly, yes. A lot of that will come back to community education. People are becoming more aware that they need to have more knowledge as well.

MR WEICKHARDT: The health impact assessment is a sort of diagnostic tool in a series of check lists, is it, that you go through?

MS KATSCHERIAN: It's similar to an environmental impact assessment. It's done very early in the planning stages. You start looking at the proposal, whatever it might be, start considering the potential health impacts that may arise if the proposal were to be implemented and then - both positive and negative, I might add, and then look at how you can mitigate negative impacts, enhance positive impacts. It is essential that you work with your community in doing so to ensure that you are getting appropriate knowledge at the local level but also it's important that you have a good understanding of people within communities who could be at a greater risk as a result of the implementation of that proposal such as children or aged people or indigenous or - there are many groups, and it's just a tool.

MR WEICKHARDT: Right.

MS KATSCHERIAN: But it's a good tool.

MR WEICKHARDT: You mentioned at the start that you see quite different approaches by, I assume, different councils in the state.

MS KATSCHERIAN: Yes.

MR WEICKHARDT: Isn't your view there is some need to sort of get some commonality and best practice applied uniformly in this area?

MS KATSCHERIAN: I would hate to be prescriptive but I believe it would be important to have over-arching policies. I'm very keen on that sort of thing that allows for flexibility but provides for mechanisms to get best practice in place. I could see that being very valuable, and particularly in rural areas. I think in rural areas the controls on waste disposal are not the same as you would find in metropolitan areas.

MR WEICKHARDT: Yes. It's obviously more challenging in some circumstances but - - -

MS KATSCHERIAN: Yes.

MR WEICKHARDT: You talked about interestingly the hospital system managing waste itself and if you put the clinical waste and special medical waste to one side because that is outside our terms of reference, in terms of the general waste streams and the interests that the hospitals and those working in them have in terms of recycling and recovery and resource - you know, sort of minimisation, what is it that you think can be done or should be done to improve the level of sort of recovery and recycling, because it's interesting when you look at progress on waste recovery and diversion in other states.

I don't know the figures for WA but in other states you can see that diversion and recovery from municipal waste has actually started to look quite significant; recycling programs and quite a lot of productivity diverted from normal municipal waste and in construction and demolition again there has been quite a large diversion of waste from landfill. The area is ironically the largest area of the waste stream, the commercial and industrial, is the one that has least responded so far to the initiatives and it appears that in many office or industrial environments the opportunity to sort of segregate its source is limited. People talk about the frustration in major buildings of having a separate bin for paper and then finding the cleaner comes in and just tips it in the general waste anyway. Have you got any experience that's valuable or useful for us to learn from?

MS KATSCHERIAN: I am going to put a slightly different hat on here. I used to work in the university sector and I had students do quite a lot of studies on waste in industry and so on and one of the biggest concern was small industries, small business, and most of those are running very fast just to keep up type of thing, and for them to get involved in recycling programs is often too costly and timely. What we found is that there was really a need to have some sort of support system to enable to - let's say if you just had a group of retail shops or something, not a major complex, but a group of retail shops or something, most of them would share a skip through their waste disposal, and yet when you audit the wastes probably at least 70 per cent of the waste could be diverted away from landfill.

Then the biggest problem is trying to get all of those separate little industries or separate little groups working together to try and look at wastes themselves. In many cases I think all they need is somebody to trigger it for them. They need to have somebody come in and do it for them and say, "Right. Here are all your bins. These are what you put in them. Go for it." At the moment it's too hard. I would suggest that's probably a similar thing within the medical system as well. We already have lots and lots of disposal things; to get a whole lot more together that then people have to think about and disposing of is again probably hard. I would suggest that the vast majority of people who already undertake some sort of diversion processes in their own homes would be looking to do that in their workplace anyway, but unless the facilities are provided for them they can't.

Another area that I am fully aware of is, and this is one of the things that rails me more than anything, is that you might recycle everything at home and then you go shopping or you go to a public park or you go out and there's nothing that will allow you to divert your waste from just general waste that's all together. So you don't have separate bins when you're walking down the street or you don't go to your local supermarket and get a drink and then find there's somewhere you can put your aluminium cans. When we have spoken with the management of those major complexes they will say they don't want those bins around because they're unsightly and it comes down to an aesthetics situation.

Getting back to some of the industrial things a lot of it is that the buildings are not built with appropriate waste disposal as part of that - through things like cleaner production, mechanisms, where they just don't have - it's not regarded as the normal thing. Waste comes later. It should really be part of the construction of the premises right up front are my thoughts, and even for residential development, especially apartments or high rise buildings or whatever, they build them and then later on they think about waste and then they only have a small area for the waste bins and so they don't have mechanisms for sorting so there are lots and lots of things where we do things and waste is just one of those things, "We'll sort it out when get to it."

MR WEICKHARDT: Yes, you're right. There are a lot of rather frustrating and disappointing aspects to all that. A number of people have told us in the aspect of public places that disappointingly the compliance level with segregating waste in that situation is appalling and that when you put separate bins out unfortunately, and disappointingly, you find that people just comply with the sorting process and so I think in New South Wales and Victoria we have been told that people have just given up on that process and they take the product to what they call a dirty MRF, a dirty recycling centre, and large amounts of it get rejected because it's cross-contaminated.

MS KATSCHERIAN: Yes. I mean, one of the areas that would be really worth targeting is children and a national strategy targeting children and waste. A lot of

kids - I think we're all parents - a lot of kids just do the opposite because somebody has told them they have to do it but if they're taught very young and they will undertake those practices, but they have to be the sort of practices that are very easy to do. Kids won't walk more than two metres to throw something away. There does need to be a recognition that waste is part of everything that goes on.

If we have major events the mess afterwards is appalling but I think a lot of it is because not enough people are saying, "Take your waste with you," or, "Use the bins." They just leave it where they sit or wherever and I think we have become a society where we think somebody will come along and clean up after us and we don't have to take responsibility for it ourselves. I think one of the frustrations I have here in Perth is when they have major events, particularly public events, they're cleaned up before anybody gets out and about the next morning and yet the worst pigsty the night before, and I actually think they should be left as a big mess and people made to feel that, "Hang on a minute, this is not right," and that they should be doing something about it; but that's a personal view, sorry, that's not to do with the Department of Health.

MR WEICKHARDT: Yes. There are some bizarre things here. The good news is that I have lots of visitors and friends who come from Europe and say Australia is a long way ahead of Europe in terms of our anti-litter campaigns and cleanliness but I agree we have got a long way to go.

MS KATSCHERIAN: Yes, I agree too.

MR WEICKHARDT: Thank you very much indeed.

MS KATSCHERIAN: You're welcome. I hope it was of use.

MR WEICKHARDT: It was indeed.

MS KATSCHERIAN: Thank you. Just for the record, ladies and gentlemen, that concludes today's scheduled proceeding. Is there anyone else who wants to appear today before the commission? I therefore adjourn these proceedings and the hearings will resume in Melbourne on Monday, 6 March. Thank you.

AT 2.01 PM THE INQUIRY WAS ADJOURNED UNTIL
MONDAY, 6 MARCH 2006

INDEX