REPORT ON PROCEEDINGS BEFORE

PORTFOLIO COMMITTEE NO. 6 – PLANNING AND ENVIRONMENT

'ENERGY FROM WASTE' TECHNOLOGY

CORRECTED PROOF

At Macquarie Room, Parliament House, Sydney on Monday, 26 June 2017

The Committee met at 9:30 am

PRESENT

The Hon. Paul Green (Chair)

The Hon. Lou Amato (Deputy Chair)
Dr Mehreen Faruqi
The Hon. John Graham
The Hon. Shayne Mallard
The Hon. Penny Sharpe

The CHAIR: Welcome to the first hearing of Portfolio Committee No. 6—Planning and Environment inquiry into energy from waste technology. The inquiry is examining the waste disposal industry in New South Wales, including relevant legislative and policy provisions, the impact of the waste levies and the capacity of the industry to meet future demand. The terms of reference also consider the need identify and manage the risk of monopolisation in the waste disposal market, the role of energy from waste technology in addressing the State's waste disposal needs and opportunity to encourage a circular economy within the industry.

I would like to acknowledge the Gadigal people who are the traditional custodians of our land. I would also like to pay my respect to elders past and present of the Eora nation and extend my respect to any Aboriginals who may be present today or listening online. The hearing today is the first of four hearings we plan to hold for this inquiry. We will hear today from the NSW Environment Protection Authority, New Energy Corporation, Waste Management Association of Australia, Clean Energy Finance Corporation, Australian Council of Recycling, Suez, Local Government NSW and Veolia.

Before we commence I would like to make some brief comments about the procedure for today's hearing. Today's hearing is open to the public and is being broadcast live via the Parliament's website. A transcript of today's hearing will be placed on the Committee's website when it becomes available. In accordance with the broadcasting guidelines, while members of the media may film or record Committee members and witnesses, people in the public gallery should not be the primary focus of any filming or photography. I also remind media representatives that they must take responsibility for what they publish about the Committee's proceedings. It is important to remember that parliamentary privilege does not apply to what witnesses may say outside of their evidence at the hearing. Therefore, I urge witnesses to be careful about any comments they make to the media or to others after they complete their evidence as such comments would not be protected by parliamentary privilege if another person decided to take action for defamation. The guidelines for the broadcast of proceedings are available from the secretariat.

There may be some questions on notice that witnesses could only answer if they had more time or with certain documents in hand. In these circumstances witnesses are advised that they can take questions on notice and provide an answer within 21 days. Witnesses are advised also that any messages should be delivered to Committee members through Committee staff. To aid the audibility of today's hearing I remind both Committee members and witnesses to speak into the microphones. In addition, several seats have been reserved near loudspeakers for persons in the public gallery who have hearing difficulties. Finally, I remind everyone to turn their mobile phones to silent or off. I now welcome our first witnesses from the NSW Environment Protection Authority.

STEPHEN JOHN BEAMAN, Executive Director, Waste and Resource Recovery, NSW Environment Protection Authority, sworn and examined

HENRY MOORE, Manager, Waste Reform, NSW Environment Protection Authority, affirmed and examined

The CHAIR: Would either of you like to make an opening statement?

Mr BEAMAN: Yes, I would, thank you. I would like to thank the Committee for inviting the Environment Protection Authority [EPA] to participate this morning in assisting with the Committee's deliberations into energy from waste. I would also like to make an opening statement to provide the Committee with context around waste strategy and policy that help form the basis of the NSW Energy from Waste policy. The EPA's role in setting waste policy and to regulate for a safe and modern waste management system is clear and unambiguous. It is useful to start with the legislative framework that guides the EPA's policy and regulatory direction.

There are two pieces of legislation that set the New South Wales framework. The first piece of legislation is the Protection of the Environment Operations Act 1997, also know as the POEO Act. The Protection of the Environment Operations Act and Regulations provide the EPA with powerful enforcement provisions, a detailed licensing framework and other tools that we use to protect human health and environment from the inappropriate use of waste. The second piece of legislation is the Waste Avoidance and Resource Recovery Act 2001, also known as the WARR Act. The Waste Avoidance and Resource Recovery Act sets two very important policy cornerstones—the waste hierarchy and the NSW Waste Avoidance and Resource Recovery Strategy.

The waste hierarchy provides guidance on the order of preference of approaches to achieve efficient resource use. The key steps in the waste hierarchy are waste avoidance, waste reduction, reuse and recycling, recovery of energy, and then final disposal. The NSW waste hierarchy is based on similar waste hierarchies used by many other OECD countries. The Waste Avoidance and Resource Recovery Act also requires the EPA to develop, consult and adopt a NSW Waste Avoidance and Resource Recovery [WARR] Strategy and in late 2014 the EPA adopted a new waste strategy.

The WARR Strategy is underpinned by the waste hierarchy and sets ambitious recycling targets for New South Wales to achieve by 2021, including a reduction of waste generation per capita; increasing the recycling rate of municipal waste and commercial waste to 70 per cent by 2021; increasing the recycling rate of construction and demolition waste to 80 per cent by 2021; increasing the diversion of waste away from landfill to 75 per cent by 2021; establishing at least 86 community recycling centres across the State to help households dispose of problem household waste such as paint, gas bottles and batteries; reducing the volume of litter by 40 per cent by 2020 and then reducing the incidence of large-scale illegal dumping by 30 per cent.

As required by the Act these targets were benchmarked against international best practice and were open to extensive consultation. It is a role of the EPA through its regulatory program and policy settings to ensure that we strike the right balance between these two statutory objectives in relation to environment protection and resource recovery. New South Wales is recognised by many other jurisdictions and many in industry as leading the way on a progressive waste and recycling agenda. We have pulled together policy, strategy, funding and regulatory programs into a coherent framework to ensure the community, local councils and industry have a clear line of sight on what is required and this has been roundly welcomed by most stakeholders. We have a strong sense of purpose in New South Wales on what needs to be achieved.

The EPA has developed a series of key delivery plans to direct priority actions for local councils, industry and the EPA to help achieve the 2021 waste strategy targets. A critical part of this work has been the development of four key strategies that identify priority actions to help drive delivery. These four statewide strategies include the Changing Behaviour Together: Waste Education Strategy, a draft Litter Prevention Strategy, an Illegal Dumping Strategy and a Waste and Resource Recovery Infrastructure Strategy. The NSW Waste Education Strategy has been adopted and is being implemented following extensive consultation in 2016. The NSW Litter Prevention and Illegal Dumping Strategies are currently out on public exhibition until 31 July this year.

I note that some councils and industry submissions to this inquiry call for greater infrastructure planning and I am pleased to inform the Committee that the EPA is finalising the first ever NSW Waste and Resource Recovery Infrastructure Strategy for consultation. The strategy is currently being updated with more recent Australian Bureau of Statistics data and we are currently validating the datasets with the relevant

Regional Organisation of Councils prior to finalising the draft strategy for consultation. The EPA has also funded local government to develop and implement regional waste strategies and I am pleased to advise that regional waste strategies have been developed that cover all New South Wales councils except for three and recently two of those councils have agreed to come under the regional waste program. The development of regional waste strategies by local councils for local communities has been a significant step forward in waste and recycling planning. The integration of these regional waste plans and the new infrastructure strategy will provide local councils with a long-term game plan. In addition, the EPA has been working with the Department of Planning and Environment and the Greater Sydney Commission to further develop and integrate these strategies into long-term planning.

We believe that energy recovery from waste is a genuine part of a modern, integrated waste management strategy. The thermal treatment of waste is an opportunity to recover the embodied energy, offset the use of non-renewable energy sources, reduce disposal of waste to landfill and avoid long-term methane emissions from landfilled waste. Many of the leading waste management jurisdictions around the world include some level of energy recovery in their policy mix. The NSW Energy from Waste Policy Statement was developed with the assistance of a consultative committee with representatives from the Local Government Association, Total Environment Centre, Australian Council of Recyclers, Waste Management Association of Australia, an expert on resource recovery expertise and a waste industry expert. The draft policy was released for public consultation on 13 March 2013 for an eight-week period that closed on 3 May 2013. During the public consultation period, the EPA received 57 written submissions.

The public consultation period was advertised on the Have Your Say website and letters advising of the release of the draft policy were sent to 466 stakeholders including all New South Wales councils, regional organisations of councils, industry, non-government organisations and other jurisdictions. The EPA also conducted eight consultation sessions on the draft policy across the State. Following consideration of the public submissions, the EPA adopted the Energy from Waste policy in March 2014. The policy positions energy from waste in New South Wales as part of an integrated waste management strategy and requires facilities to use current international best practice technology.

The policy covers four key areas that must be addressed by all energy from waste proposals, these being technical criteria, including air emissions; thermal efficiency; resource recovery; and a social licence to operate. The policy does not intend that the New South Wales landscape is shifted such that thermal treatment of waste entirely replaces landfill. As part of any assessment or planning process, proposals are being subjected to intense scrutiny by the EPA as well as other government agencies and independent experts. The EPA often calls upon international expertise to provide expert advice. While we support the recovery of energy from waste, the protection of human health and the environment is paramount.

I will quickly touch on each of those four criteria. Firstly, the technical one: The adoption of the technical criteria in the policy was considered by the consultation committee in detail, and it was agreed that we would use the European Union framework as a starting point. The Energy from Waste Policy requires the process and air emissions from an energy recovery facility to satisfy at a minimum—let me repeat, at a minimum—the requirements of group 6 air emissions within the POEO Clean Air Regulation. The policy also requires an energy recovery facility to demonstrate that it will be using current international best practice with respect to air emission controls. An energy-from-waste facility must also meet additional technical criteria, such as: the gas from the resulting process must be raised to a minimum temperature and held at that temperature for a specific duration, depending on the chlorine content; continuous measurements of NOx, CO, particles, total organic compounds, HCI, HF and S02; continuous measurement of combustion chamber temperature; additional annual measurements for heavy metals, polycyclic aromatic hydrocarbons and dioxins and furans; and an air quality impact assessment undertaken in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.

The EPA can prescribe additional controls and monitoring to address individual project risks above the Clean Air Regulation by requiring tougher emissions standards, more frequent monitoring and a human health risk assessment. Emission limits in EPA licences can be and are often lower than the Clean Air Regulation and are set to reflect actual performance of the proposed plant and to protect the human health and amenity of the community. I note in some submissions the claim that New South Wales air emission limits are less protective than the European standards. It can be misleading to numerically compare standards between jurisdictions. Regulation of industrial emissions and air quality management is highly technical and complex, and simple comparisons are not easy to draw.

The Clean Air Regulation prescribes the maximum emission permissible from any industrial source located in New South Wales. The emission limits in the Clean Air Regulation do not consider site-specific features such as meteorology, background air quality and individual plant configuration. These factors are addressed via a site-specific air quality impact assessment. The air quality impact assessment helps to ensure protection of human health and the environment. The methods required by statute to be used to model and assess emissions of air pollutants are outlined in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.

In setting emission limits, the EPA adopts the following three principles which result in licence emission limits being more stringent than the Clean Air Regulation. First, emission limits must reflect best environmental practice—the emission limits must be no greater than the Clean Air Regulation. Secondly, emission limits must reflect proper and efficient operation. Emission limits are consistent with the proper and efficient operation of plant and equipment. Depending on the plant and equipment, these levels can be significantly lower than those prescribed by the Clean Air Regulation. Thirdly, emission limits must protect the health and amenity of the surrounding community. The approved method sets out health-based and amenity-based impact assessment criteria for the protection of ambient air and the process for assessing the impacts of air pollutant emissions on ambient air quality and the surrounding community. In summary, it is not correct to simply compare the emission limits between different jurisdictions.

In relation to resource recovery, in line with the New South Wales waste hierarchy and to protect the State's ambitious recycling targets, the policy restricts energy recovery to a complementary waste management option for residual waste produced from material recovery. The policy contains energy recovery criteria, which protect current and future recycling opportunities in accordance with the waste hierarchy. In practice, only residual materials resulting from the back end of a resource recovery facility or residual waste from best practice source segregation systems are eligible for energy recovery. The policy objective in setting the resource recovery criteria is to promote the source separation of waste where technically and economically feasible, drive the use of best practice material recovery and ensure only the residual from bona fide resource recovery operations are eligible as a fuel.

The CHAIR: Mr Beaman, have you almost completed your opening statement?

Mr BEAMAN: I have three more paragraphs. The policy quantitatively defines what waste can be considered a residual material eligible for energy recovery. The policy does not allow for mass burning of waste. The thermal efficiency criteria was included to enable the community to clearly distinguish between bona fide energy recovery and disposal by incineration. To be considered an energy-from-waste plant, the net energy produced from thermally treating waste, including energy used in the process, must be positive.

Finally, on the social licence, the policy also states that it is essential that the community be genuinely engaged in any proposal and the operators of any facility operator act as "good neighbours" with respect to readily available information about emissions and resource recovery. Finally, I would like to thank the committee for allowing me to make this opening statement. Mr Moore and I are happy to take any questions.

The CHAIR: I will begin the questioning. There is a long history of frustration in the Shoalhaven about section 88 waste levies. Can you indicate how much is collected across New South Wales?

Mr BEAMAN: Yes. I would be able to give the Committee more detailed numbers outside—

The CHAIR: Which councils do or do not contribute to that?

Mr BEAMAN: The levy applies to waste disposal that occurs in what we call the greater metropolitan area. It is the Sydney councils, it goes down to Shoalhaven and up to Port Stephens, and the levy also applies to those councils along the Great Dividing Range, up the mid North Coast and North Coast. The levy receipt for the 2016-17 year was in excess of $630 million.

The CHAIR: Thank you—that is really helpful. Can you give me a breakdown of where that $630 million or more goes? Does it go to general revenue or into waste initiatives?

Mr BEAMAN: I cannot give a detailed breakdown. I cannot give the Committee a breakdown of—

The CHAIR: Are you aware that some goes into general revenue?

Mr BEAMAN: The money goes into general revenue and then the Government makes an allocation to waste programs, and in this case—

The CHAIR: Out of the general revenue or out of the other side, which is—

Mr BEAMAN: Out of general revenue. There is—

The CHAIR: Are you able to give the Committee, say, the grants for the past five years out of those figures?

Mr BEAMAN: Yes.

The CHAIR: In total of what has been collected and what has gone to environmental initiatives?

Mr BEAMAN: Yes.

The CHAIR: Would you think it unfair for regional councils, given that it was established that the environmental levies were meant to help us redirect waste from landfill, would you think it unfair that local councils have to pay $10 million over a period of one year of people paying the waste levy where it contributes to 40 per cent across the weigh gate contribution of their waste? Do you think that is unreasonable?

Mr BEAMAN: The levy is designed to be the economic instrument to make recycling more cost competitive against land filling. In relation to how the Government disburses the money, that is a matter for government policy.

The CHAIR: Would you not agree that in regional areas and national parks we see a lot more illegal dumping because of that cost burden on local residents?

Mr BEAMAN: No.

The CHAIR: They are turned away from the weigh bridge and dump it somewhere else because 40 per cent is unreasonable?

Mr BEAMAN: Illegal dumping is an insidious environmental crime. There is no justification for it.

The CHAIR: So is collection of a 40 per cent fee. They pay $10 million and they are lucky to get $1 million back in environmental grants to do the things that waste levy was collected to do. Do you think that is unfair?

Mr BEAMAN: There is no justification under any circumstances for anyone to illegally dump. That is abhorrent an behaviour. We know from the social research and economic analysis around dumping that where the levy does not apply people still dump. There are other behaviours in the community why people illegally dump. It could be around convenience, not having access to sites. What we have implemented is the 101 community recycling centres to make it easier for people to dispose of the waste. There is an underlying antisocial behaviour that people might have and you see this where the levy does not apply there is illegal dumping. They have access to good facilities but they still illegally dump.

The CHAIR: That is not my question. Do you not think it unfair that regional councils are putting $10 million into the Government coffers and seeing only $1 million come back to encourage them to deal with environmental initiatives like redirecting waste from landfill?

Mr BEAMAN: Over the last five years—that is a decision of government policy.

The CHAIR: If we talk about five years, that is $50 million.

Mr BEAMAN: If we do five years, the government has allocated $465 million and just extended that by another $337 million. That is $802 million and about half of that is available to local government.

The CHAIR: That is on the back of a certain amount of councils in certain areas where a lot of those people are pensioners.

Mr BEAMAN: The setting of the waste levy and how it is used is a matter of government policy.

The CHAIR: You had better believe it is, but do you not think it is unfair?

The Hon. PENNY SHARPE: Thank you for coming in today. We have a proposal for a 1.3 million tonne per year waste incinerator at Eastern Creek. Can you confirm that it does not meet the Environment Protection Authority's [EPA] energy from waste policy?

Mr BEAMAN: That is correct. We have assessed this proposal. We have done two adequacy assessments and two assessments on the environmental impact statement [EIS] that has been publicly released and in its current form the EPA is unable to support the proposal.

The Hon. PENNY SHARPE: I have read your submission and comments in relation to this. It is an area that is 800 metres from residential property and close to schools and playgrounds. Your submission said that you cannot support it because of problems with air quality, human health impacts and alignment with the policy. Can you provide more information on what are the issues with air quality and particularly human health impacts?

Mr BEAMAN: Yes, I can. This forms around the issue of a lack of detail around what the feed stock is going to be, what the fuel is going to be through the facility. There are a lot of gaps or assumptions that we do not think are appropriate. In relation to the air quality and human health risk assessment that lack of detail means that we are unable with confidence to say that the human health and environment is going to be protected and therefore we cannot support it.

The Hon. PENNY SHARPE: You do not know what is going in so how can you possibly know what is going to come out of it?

Mr BEAMAN: Correct.

The Hon. PENNY SHARPE: The proponent of this proposal went on public exhibition in 2015 and the EPA outlined a range of concerns that were to be addressed. In the public exhibition 2016-17 there appears to have been no changes or very few changes to that proposal. Do you think that we are going to get from the proponent the clarity needed for the EPA to consider supporting it?

Mr BEAMAN: We have to wait and see what the response to the submissions will be. They are currently being collated by the proponent and will go back to the Department of Planning and Environment and then we will make that assessment. Hopefully, you have seen from our written submissions that we have been absolutely clear about our concerns.

The Hon. PENNY SHARPE: Are you able to confirm that the most recent EIS was supposed to provide improvements in relation to odour assessment, soil and water assessments and site contamination investigations but they are still incomplete within the EIS?

Mr BEAMAN: Correct.

The Hon. PENNY SHARPE: The proponent of this facility has a poor track record of compliance with other environmental regulations in other locations. Are you able to supply to the Committee the number of compliance breaches that have been lodged and all complaints associated with the proponent and his companies?

Mr BEAMAN: Yes, we can. I will have to take that on notice.

The Hon. PENNY SHARPE: You will be able to provide all of those at all facilities?

Mr BEAMAN: Yes.

The Hon. PENNY SHARPE: Is there the ability in issuing licences within the EPA for a fit and proper person test in relation to operations of this nature?

Mr BEAMAN: Correct. Section 83 of the Protection of the Environment Operations Act has an extensive heads of consideration in terms of a fit and proper person. In terms of our assessments of the proposal we want an assurance that people are suitably qualified and experienced and that those personnel are on site to operate any such facilities.

The Hon. PENNY SHARPE: What else would you take into account under the fit and proper person test?

Mr BEAMAN: We are required to assess all the criteria under section 83 of the Protection of the Environment Operations Act.

The Hon. PENNY SHARPE: What has been proposed is the largest incinerator of its kind in the world. Most incinerators are 20 per cent of the size. There would be 1.3 million tonnes per annum of waste being burnt out at Eastern Creek. How is the EPA able to assess that proposal, given that there is nothing comparable to it in the world?

Mr BEAMAN: We have engaged experts internally and externally. We have gone to two independent experts who have experience in these types of facilities overseas and that goes to some of the heart of our concerns about being able to demonstrate what the current proposal is proposing to do with the type of feedstock and not being able to show us a reference facility elsewhere in the world. One thing that the energy from waste

policy has in it is a requirement to demonstrate a reference facility. In the colloquial sense our view is you should be able to go and kick the tyres of it. We designed the policy to be conservative to make sure that anyone that comes forward we are able to assess another facility elsewhere around the world to make sure it delivers.

The Hon. PENNY SHARPE: The short answer is, no. There is nothing to compare it to, so how can you kick the tyres on it?

Mr BEAMAN: In relation to what they are proposing, correct.

The Hon. PENNY SHARPE: In relation to the planning assessment commission process: The EPA says it does not support it and you are waiting for the proponent to come back with more information. Will the EPA have another go at input in relation to the approval of this proposed incinerator?

Mr BEAMAN: That is a question best answered by the Department of Planning and Environment.

The Hon. PENNY SHARPE: It is not guaranteed?

Mr BEAMAN: We will look at the submissions and I suspect we will be asked to provide advice and my understanding is that it will then go to the Planning Assessment Commission.

The Hon. PENNY SHARPE: You will have another opportunity to do that?

Mr BEAMAN: Correct.

The Hon. PENNY SHARPE: If there is not significant change do you believe you will continue to not support the proposal?

Mr BEAMAN: That is hard question to answer. I am not sure what we are going to see. I think we need to see what the submissions are and assess them on their merits.

The Hon. PENNY SHARPE: Although your submission did not touch on this, many of the submissions discuss the amount of waste that has been transported to Queensland—estimated at around 600,000 tonnes per annum. Is that what you understand to be the amount of rubbish that is being moved to Queensland?

Mr BEAMAN: I might add one sentence to start with—I am certainly not avoiding the question. This is a national problem that happens with everyone. I know everyone focuses on this issue. We have got South Australian recycling going to Victoria, Victoria into Queensland, the Australian Capital Territory into New South Wales and New South Wales into Queensland. So it is quite a complex thing that is happening at the moment. Our numbers show for the year to date—we are only a couple of days short for the current financial year—about 673,000 tonnes. About 46 per cent of that goes for recycling. That is what gets left out of the debate. So 310,000 roughly for recycling and 362,000 for landfill.

The Hon. PENNY SHARPE: How much is that in lost revenue from the waste levy in New South Wales?

Mr BEAMAN: I am not really concerned. I am more concerned about the—

The Hon. PENNY SHARPE: We are talking about tens of thousands of dollars if not $100 million going out of New South Wales. You are not concerned about that?

Mr BEAMAN: Section 90 of the Constitution states trade between the States shall be absolutely free. I think the real shame of this is we are losing resources we could recycle in New South Wales. For every 10,000 tonnes you recycle you generate nine jobs and for landfill it is two.

The Hon. PENNY SHARPE: We are losing resources and jobs and possibly hundreds of millions of dollars. I understand there are constitutional issues about interstate trade, but what other things has the EPA looked at in trying to address this massive loss of rubbish? It makes no sense for it to be going across the border and for us to be losing this amount of money.

Mr BEAMAN: I totally agree and there is a collection of EPAs called the heads of EPA. The heads of EPA have asked me to chair a waste subcommittee and it is to look at a national solution. We are currently working with the other jurisdictions on a national solution.

The Hon. PENNY SHARPE: Have you briefed the Minister for the Environment on this to raise it at the meeting of environment Ministers?

Mr BEAMAN: Not for the next meeting of environment Ministers, no.

The CHAIR: On that list can you also tell us what the benefits are of Queensland taking all that waste rather than New South Wales? Are there some benefits?

Mr BEAMAN: I am not sure.

The CHAIR: Or are we just hearing one side? We heard what the Hon. Penny Sharpe has said, but surely there are some benefits as well.

Mr BEAMAN: When we did an economic analysis of this for a regulation in 2014 it was a $44 million a year net cost to the economy when you take into account both the environmental and social impacts of the unnecessary transportation of waste. I think there are probably very few people, for example, some transporters and some landfill operators, that are benefiting, I suppose at the expense of the general community and of society.

The CHAIR: You say there is no benefit for us to be sending our waste across the Queensland border?

Mr BEAMAN: For material that is recycled and goes back into the economy—whether it is overseas or into the Queensland economy—that is a benefit. But for material that goes straight to landfill, I think that is a loss.

The Hon. JOHN GRAHAM: The amount you estimate that is missing out of the levy, I do not think that question was asked previously.

Dr MEHREEN FARUQI: Could you take it on notice and give us an answer?

Mr BEAMAN: I could take it on notice, yes.

The CHAIR: We talked about a particular provider and breaches. Are you able to give us breaches from other providers so we are comparing apples with apples? Are there breaches across industry by certain groups that we should be aware of that so we are not just looking at one person and his or her practices?

Mr BEAMAN: That might be a bit hard to do without any specific lists.

The CHAIR: I do not want names; I want to say industry A, B, C in the same sort of grouping and the breaches they would have incurred. It would be unfair for the Committee to look at one group with breaches and say that there are breaches across the industry.

Dr MEHREEN FARUQI: The facility at Eastern Creek that we are considering today is described by the media as the world's biggest waste incinerator. Would this be correct in your opinion?

Mr BEAMAN: My understanding is in terms of the amount of tonnes of throughput it would certainly be up in that range, correct.

Dr MEHREEN FARUQI: I have done some calculations and this incinerator with 1.34 million tonnes of waste per year would burn approximately 3,500 tonnes of waste every day. Typical incinerators around the world burn approximately 500 to 1,000 tonnes of waste a day. Would that be your understanding as well?

Mr BEAMAN: Yes. From what we have seen from other facilities overseas they tend to operate between 250,000 and 500,000 tonnes a year—in that sort of range.

Dr MEHREEN FARUQI: In your presentation earlier you said that the EPA does not support the mass burning of waste. Would you consider this to be a mass burning of waste?

Mr BEAMAN: I think what the proponent is proposing is that the mass burn is around not having any pre-treatment, not having any sorting and not getting any of the valuable material out. So just driving either from the waste generator, from the household or the business, and having that truck go straight to the energy from waste plant. That is what we consider mass burn. The proponent in this approach has tried to source residual material post recycling but there is still a fair proportion—I think about 20 per cent—of the feedstock that is still unknown.

Dr MEHREEN FARUQI: You have raised that concern in your submission.

Mr BEAMAN: Correct.

Dr MEHREEN FARUQI: In the EPA energy from waste policy there is a list of eligible waste fields. I understand the Eastern Creek facility would also be burning plastics and metal.

Mr BEAMAN: Yes.

Dr MEHREEN FARUQI: Which are not on that list of eligible fields. Would materials like plastics and metals pose a risk to human health if they were burned in this facility?

Mr BEAMAN: I might ask Mr Moore to explain how that total works because it goes to the heart of the policy.

Mr MOORE: The policy basically has two sections to it; the eligible waste fuels and energy recovery facilities. The eligible waste fuels are very well understood, low risk, consistent over time materials, such as agricultural crop wastes. If a facility is proposing to take that sort of material they still have to meet the clean air regulation emission limits, et cetera. But the facility would be operating only with receipt of those materials. If that material stream that the facility is receiving is broadened to cover materials like plastics and a lot of the other waste materials that we all generate as a society, they fall under the energy recovery facility part of the policy, which means they are then having to go through the process that the proponent we are talking about this morning is currently going through with the EPA.

The requirements of the policy to set up to manage the risks associated with that mean that as long as you are not utilising waste materials that fall in the high-risk end of the spectrum, restricted solid wastes or hazardous wastes, then the technologies that are being proposed and the controls that are put in place mean that energy can be recovered from them safely without environmental impact.

Dr MEHREEN FARUQI: But at the moment the EPA is not satisfied that that is the case?

Mr MOORE: Correct.

Dr MEHREEN FARUQI: I understand that the EPA conducted its own human health risk assessment of this proposal through end risks. Is it standard practice for the EPA to conduct its own human health risk assessment on proposals that are proposed for development approval?

Mr BEAMAN: I think in this case the proponent did the human health risk assessment then we engaged environmental health assessment to do the technical review because those human health risk assessments are actually highly complex and quite technical. So we had that independently assessed by a known expert.

Dr MEHREEN FARUQI: What was the result of that assessment?

Mr BEAMAN: Similar to the air emission discussion—that is, there are too many gaps, there is too much uncertainty in the assessment to reach a robust or preferable solution. I think from our perspective any gap or any uncertain area around that for us is unacceptable.

Dr MEHREEN FARUQI: The EPA energy from waste policy statement—and I am paraphrasing—also says that energy from waste can provide positive outcomes but only if it is the most efficient user-free source and there is no increase in the risk of harm to human health or the environment. Are those two issues part of the reason why you are not supportive of the proposal at the moment?

Mr BEAMAN: As it currently stands, I think there is a lack of information and data around what the proposal is putting forward. Those two things that you raise really go to the heart of why the EPA cannot support it in its current form.

Dr MEHREEN FARUQI: Would the EPA commit to not supporting the facility if it does not meet those two requirements?

Mr BEAMAN: Our public position currently is that in its current form we cannot support it.

Dr MEHREEN FARUQI: I am also interested in overseas examples. You said there were no comparable examples of this size anywhere in the world. Would that be correct?

Mr BEAMAN: Not that I am aware of.

Dr MEHREEN FARUQI: What about the distance from people's homes? At the moment some people's homes and some parks are just 800 metres away. Is that a concern for you?

Mr BEAMAN: I will hand to Mr Moore but in the European context in particular and also in Japan a lot of these facilities are within community neighbourhoods. There are three energy from waste facilities in the old part of Paris. You can be at the Eiffel Tower and there are three in eyeshot.

The Hon. JOHN GRAHAM: But not of this size.

Mr BEAMAN: Certainly not of this size.

Dr MEHREEN FARUQI: And not without the best available technology either.

Mr BEAMAN: Correct. It is the same throughout the United Kingdom and elsewhere through Europe. This technology has been used quite a lot through Europe over the last 30 or 40 years and that is why we look towards the European Union's directives to help us when we formulate the policy. But certainly in the case of the European example there are some in close proximity.

Dr MEHREEN FARUQI: When we look at the waste hierarchy, which the EPA agrees to, energy recovery comes quite low down. It is just above disposal.

Mr BEAMAN: Correct.

Dr MEHREEN FARUQI: How would the EPA ensure that this particular facility would only be using waste that is absolutely not recyclable? What would be the methodology to make sure that is the case?

Mr MOORE: One of the key criteria in the policy relates to resource recovery. What we have done is basically put in ceilings for what proportion of materials and what type of materials are eligible for energy recovery. Those are established in such a way that they both support existing resource recovery practices across the State and also leave, in some cases, a significant gap for future opportunities as well. As Mr Beaman has said, the energy from waste policy is very much targeted at the recovery of energy from residual materials from waste processing or resource recovery operations for which there is no further use. At that point in terms of the waste hierarchy, we accept the value of recovering that energy prior to that material being landfilled. The resource recovery criteria basically enshrines that within the policy framework.

Dr MEHREEN FARUQI: How would that be regulated and monitored for such facilities?

Mr BEAMAN: In terms of where the feedstock comes from, we would require the record keeping from the operator and have it at both ends—from the person providing the waste to what is received at the facility—to ensure that they met those resource recovery and recycling targets. That is a balancing exercise. All waste facilities in New South Wales at the moment—both recycling and landfills—are required to have weighbridges and they are all required to report their ingoings and outgoings and we get that on a monthly basis. We would require all that to be documented and those records made available.

In relation to that bit in the policy where we have put quantifiable limits on the recycling rate, or the recovery rate, that is required, when we sat with the consultative committee on the air emissions we did the technical part fairly quickly. The more difficult one was coming up with that recycling rate. At the moment in New South Wales in terms of recovery—and rightly so in terms of the hierarchy—it is material recovery; it is getting valuable materials out of the stream. But if you had a laissez faire policy environment and you built an energy from waste facility that pendulum would swing too far towards energy. The idea was to be constrained. We set those numbers pretty conservatively so we do not rule out any future advances in material recycling. We have set them quite conservatively.

Dr MEHREEN FARUQI: Would you agree that energy from waste is the most inefficient form of energy recovery at the moment? It is less efficient than coal and obviously much less efficient that solar, wind or hydro. Would that be a correct statement?

Mr BEAMAN: I am probably not technical enough to be able to answer that directly. Where you can get as much beneficial recovery out of the waste stream, that material is now currently going to landfill and being lost in perpetuity. Is there an opportunity to recover the embodied energy from that material that is currently being lost to landfill and in the right circumstance should we recover that energy so it can displace some other non-renewable energy sources? I think in that context other jurisdictions put it in that policy mix. I am not sure I can directly answer that question in relation to comparable fuel sources.

Dr MEHREEN FARUQI: Are there any waste to energy plants operating in Australia at the moment with a similar waste composition as is being proposed?

Mr BEAMAN: Not a similar waste composition but I understand there is one operating in Western Australia.

The CHAIR: Is it operating or being built?

Mr BEAMAN: My understanding is it has been finished and I think they are in commissioning. I think they are coming in later this morning. They will be able to help you.

The Hon. LOU AMATO: I note in South Sydney there is a lot of illegal dumping and a lot of it is coming from developers. Is there a tracking mechanism in place? If a developer is working on one old fibro

asbestos house, is there a mechanism in place that tracks when that material goes from that developer to the tip to provide evidence that they disposed of it correctly?

Mr MOORE: In 2014 we reviewed the Protection of the Environment Operations Act waste regulation. As part of that we introduced the need to track the cradle to grave movement of a range of waste materials. Following that regulation coming into force we have then built a system to do that. It is called WasteLocate. At the moment that system manages the cradle to grave movements of waste tyres and asbestos. They were the two key wastes at that point in time when these issues were considered that were deemed to be appropriate for this sort of tracking. What we are doing at the moment is certainly looking at this as part of an integrated approach to managing illegal dumping. As you rightly pointed out, this is an obvious path for us to go down and we are currently looking at the application of WasteLocate.

The Hon. LOU AMATO: It is a commonsense approach. They have a development, they have to dispose of that building material and they need to provide evidence of where it was disposed of. It is really clear cut. That would eliminate that type of illegal dumping.

Mr MOORE: The bottom line is there certainly are opportunities to look at a WasteLocate sort of tracking system with these sorts of waste issues, particularly where they are problematic.

Mr BEAMAN: WasteLocate is smart phone technology, so it uses a QR code. They are those little codes you see in coffee shops. You can use your smart phone and scan it in and out. Waste facilities have those scanning plates at the weighbridge. An asbestos removal operator can scan it in on their phone and when it arrives at the tip it scans out and it sort of lays out the transaction. We are using that technology. Really, waste is reverse logistics so it is akin to a parcel tracking system.

Mr MOORE: We have real-time oversight over that data too.

The Hon. LOU AMATO: You can take this question on notice. What process do you have to dispose of liquids such as paints, thinners and glues? I understand that there are waste oil recycling centres to recycle waste oil, but what about paints and other toxic liquids?

Mr BEAMAN: As part of the Waste Less, Recycle More initiative, in our waste strategy we had a target of 86 community recycling centres. I am pleased to advise we have funded local councils for 101 around the State and you can go to those places and drop off paint.

The Hon. LOU AMATO: I understand that. My question is what happens after that process? How it is disposed of or recycled?

Mr BEAMAN: There are a couple of large waste operators in New South Wales that treat those materials. There is a couple of treatment facilities. There is the Homebush Bay Liquid Treatment Plant. Toxfree has a facility out at Western Sydney. Waste oil gets reprocessed and cleaned and separated. That is pretty straightforward. I will take that question on notice and come back with that information.

The CHAIR: We are interested in the end-of-life process.

The Hon. SHAYNE MALLARD: Thank you very much for a comprehensive opening statement. It was like a university lecture on the environment. I appreciate that because it forms a good basis for the start of this inquiry. The waste hierarchy target for 2021 is 70 per cent commercial and residential waste recycled and 80 per cent demolition waste recycled. How are we tracking towards those targets?

Mr BEAMAN: The base year for us comes off 2000. I do not have the numbers in front of me, but I can provide them. They were in the high 20s in 2000. The last public waste data we have is for 2012-13. For household waste we were tracking at about 57 per cent up from a base of about 28 per cent, for commercial and industrial waste it was 61 per cent, and for building and demolition waste it was 75 per cent. They are all tracking on the right trajectory.

The Hon. SHAYNE MALLARD: That is good news. I am interested in the European waste-to-energy plants, which I understand are much smaller. Are they a recent phenomenon in Europe, or are they old plants? I would like some background.

Mr MOORE: Historically, waste-to-energy plants, incineration or combustion have been used in waste management in European jurisdictions for a long time. There have been waste incinerators in Europe for many decades. Over time, those facilities have been significantly upgraded. That speaks to the location of many of them; they were often located outside urban areas or further away. If that was 50 years ago, obviously there has been urban encroachment. As a result, they have become much better in terms of performance outcomes. As

Mr Beaman said, a number of these facilities now exist within central city locations around Europe and effectively have no impact on the surrounding environment and air quality.

The Hon. SHAYNE MALLARD: I have experienced them Copenhagen, where the steam produced from burning waste is channelled into the neighbourhood for central heating.

Mr MOORE: That is right.

The Hon. SHAYNE MALLARD: There must be very high standards for air emissions. In your hierarchy for waste, do they also use the tail-end material; that is, the last resources that cannot be recovered?

Mr MOORE: Some of them are and some are not. Some of them are mass-burn waste incinerators. Waste is generated and trucked, generally straight into these facilities. They are often dealing with a more diverse range of material, and often less controlled in terms of its composition. It is the technology of these facilities that deals with the inherent risks associated with it to produce the no-impact outcome.

The Hon. SHAYNE MALLARD: What would be a good example for the Committee to examine? You referred to the Paris facilities. Are they cutting edge?

The CHAIR: What is the global benchmark?

Mr MOORE: There are some good benchmark facilities in Scandinavian countries. I do not know much about the Paris facilities. There is a couple in the United Kingdom that would be world's best practice.

The Hon. SHAYNE MALLARD: But they are about a quarter of the size of the one being proposed. As Mr Beaman said, they are often within the 200,000 tonne to 500,000 tonne range.

The CHAIR: We have a few more questions. We are going over time, but your evidence is extremely important. We are seeing all this waste going over the Queensland border. Is the fact that people are taking waste over the border an indicator that the section 88 waste levy is unaffordable, or that the policy settings or fee settings are wrong?

Mr BEAMAN: I would turn that around and say that perhaps Queensland does not have the right policy settings. You can landfill in Queensland very cheaply at the moment; it costs about $10 a tonne. We are not sure how they can do that. If they had the same environmental controls that are in place in New South Wales, and they had to keep money for long-term liabilities and so on, typically the cost would be about $40 dollars a tonne. There is clearly a differential between the environmental standards. The recently published Queensland data indicates that it has very low rates of recycling. That is widely recognised by the industry as the fault of not—

The CHAIR: Do you not think that if people are filling up a truck in Sydney and taking it to Queensland there is something wrong with fee settings in New South Wales?

Mr BEAMAN: No, I think it is—

The CHAIR: If it is still cheaper for a truckie to take it to Queensland because of the policy settings—

Mr BEAMAN: Queensland is simply losing the opportunity to recycle according to the hierarchy. I do not think that is what anyone wants. If we set a zero landfill gate price, we would not have a viable recycling industry.

The CHAIR: I understand the cost of that. I have unfinished business with and I am impassionate about an issue affecting ratepayers. Do you not agree that it is unfair that ratepayers are paying a section 88 waste levy of probably 40 per cent at the gate and when their council implements an initiative that redirects waste from landfill they are then required to pay again? Do you not think that is unfair?

Mr BEAMAN: I do not think they pay again.

The CHAIR: They pay twice. They take their waste over the weigh bridge and pay 40 per cent, hoping that that will go into the council's coffers so that when the new recycling plant, the redirection plant or the waste stream director out of landfill is built they will not have to go to the Government to beg for money. The environmental fund might provide $1 million. However, they have already paid $10 million in waste levy and they are then required to cough up more as ratepayers to build that facility. Do you not think that is unfair and a rip off?

Mr BEAMAN: The Government has provided an allocation and a set amount of those funds go directly to local government. I will provide an example.

The CHAIR: But it is not the full cost; it is not full hypothecation.

Mr BEAMAN: We provide $70 million to the Better Waste and Recycling Fund. That goes to each council and levy area on a per capita basis.

The CHAIR: But if they are paying $10 million and they are getting only $1 million—

Mr BEAMAN: Can I finish this; it is important?

The CHAIR: Yes.

Mr BEAMAN: We have handed out about $70 million, and 20 per cent of that has not been spent by local councils. It is untied funding that we have allocated and they have not been able to spend it. There is about $20 million or more—

The CHAIR: But there is a massive cost shift.

Mr BEAMAN: No. The rest of the program funding is going out to councils to get the best projects built. A lot of those examples involve councils coming together as regional organisations—

The CHAIR: But councils are missing out.

Mr BEAMAN: No, they are not.

The CHAIR: They do not get full cost recovery of that section 88 levy.

Mr BEAMAN: No, they do not.

The CHAIR: They have to beg, borrow and steal to get grant funding from a fund they are already subsidising by a massive amount.

Mr BEAMAN: But they are not spending what we are giving them at the moment.

The CHAIR: Some councils would like to spend it. If it were hypothecated, they would spend it on environmental initiatives and keep waste out of our landfill.

Mr BEAMAN: We give them an amount and they do not spend it.

The Hon. PENNY SHARPE: I refer back to Eastern Creek. Western Sydney's air quality standards are regularly breached, and it has more people with cardiovascular issues and asthma. Has the assessment you have done about human health impacts taken into account the topography of Western Sydney in particular?

Mr BEAMAN: Absolutely. That is called site-specific air assessment. The approved methods require taking into account the local meteorology, the local air emissions, and the local sensitive receivers.

The Hon. PENNY SHARPE: And you accept that Western Sydney has a particular problem because of the topography of the Sydney Basin?

Mr BEAMAN: For particular air pollutants.

The Hon. PENNY SHARPE: With your diversion targets away from landfill at 75 per cent, has your advice to Government been that energy from waste must be part of the process to meet that target?

Mr BEAMAN: No.

The CHAIR: Thank you for appearing before the Committee today. Obviously your role in New South Wales is important. The Committee probably needs another hour to ask questions of you. We will invite you to reappear towards the end of the inquiry after we have the rest of the story and as we learn more about the process to test that information against what you have said today. If you have taken any questions on notice, you have 21 days in which to answer them. The secretariat will provide assistance in that regard. As I said, the Committee appreciates your attendance today.

(The witnesses withdrew)

MILES MASON, Business Development Manager, New Energy Corporation, sworn and examined

JASON PUGH, Chief Executive Officer, New Energy Corporation, affirmed and examined

The CHAIR: Good morning, gentlemen. I believe you have been invited to provide a presentation so we can learn a bit more about technological opportunities. Would you like to start?

Mr MASON: Yes, thank you. Mr Pugh is going to give the presentation.

The CHAIR: For those not present at the hearing, Mr Pugh is providing the Committee with a PowerPoint presentation.

Mr PUGH: Thank you, Mr Chair. First, thanks very much for the opportunity to come and present to the Committee today. New Energy Corporation has two waste to energy projects in Western Australia, both of which have been through the Western Australian Environmental Planning Authority [EPA] approval stage, so hopefully we can share some learnings with the Committee today. As I said, we are a Western Australian company formed in 2009. We are the worldwide licensee for an Australian gasification technology. That technology is a typical Australian story: It has been installed 46 times around the world before we go and adopt our own great technologies. So we have two projects, one in Port Hedland in the Pilbara region of Western Australia and the second in East Rockingham, which is a suburban Perth project. We are one of the market leaders as we are here at the moment.

I would like to show a couple of slides on the Port Hedland waste to energy project as that was our first. Some of the learnings that we had through this process I can see being repeated here in New South Wales. Port Hedland is some 2,000 kilometres north of Perth. It is the world's largest bulk export port. Iron ore is the centre of the universe there. It is characterised by high waste from industry particularly and very poor waste infrastructure, so in our opinion it was an ideal place for some waste to energy technologies. The entree to our plant is a materials recovery facility [MRF]. The Pilbara in particular has very poor recycling. We intend to change that.

The current slide is a picture of a very well-established construction and demolition waste MRF in Perth that is run by one of our directors. All waste that comes to the project will go through the materials recovery facility. Following that it will go into a low temperature gasification process. We believe low temperature gasification is a very flexible waste to energy technology. We see a very broad range of waste in the Pilbara. This can safely treat municipal solid waste right through to tyres and conveyor belts, which are a significant problem in the region. We will have two of these modules with a capacity of about 110,000 tonnes of waste per annum. Features wise, it is a $150 million investment. As we said, the capacity of the plant is up to 110,000 tonnes. We have the materials recovery facility. We will have three gasification modules, so we will have one duty standby at all times. We will be generating 6.5 megawatts of electricity to the North West Interconnected System, and it will be the first renewable energy that is reticulated through that network.

I would like to share some learnings on the approval process. We selected the site in 2011. In Western Australia this was the first project that was referred to the EPA for approval. Our environmental impact assessment [EIA] in Western Australia is called a public environmental review [PER]. What the EPA did when we submitted our PER was trigger what is termed section 16 (e) advice in the Western Australian [WA] Environmental Protection Act [EP] Act. Essentially that allows the Minister to request general information from the Office of the EPA, and in particular the chair. Before making a determination on the project the WA EPA engaged a world's best consultant to provide three reports on waste to energy looking at an established market, which was Europe in this case—I will come back to that. We went through that process and received our ministerial approval in May 2013. To clarify, this project is just coming out of design and planning. We will be breaking ground early next year.

Mr MASON: You can see the problem with the tyres in that image.

Mr PUGH: Yes. You can see the problem with the tyres in the image on the current slide. I would like to quickly focus on the section 16 (e) advice provided by the EPA. We felt this was very important, although it delayed our process. As a proponent, we believe that we are not the right person to be answering the question of whether waste to energy is safe to the community and the environment. Certainly we believe the EPA is the right party to be answering those questions. They came up with two conclusions to the Minister through this process, the first of which basically says that waste to energy has a place in waste management. But the second one is particularly important for community and proponents:

> It has been demonstrated internationally that waste to energy plants can operate within strict emissions standards with acceptable environmental and health impacts to the community when the plant is well designed and operated using best practice technologies and processes.

The community is the number one stakeholder in these projects. That is not a throwaway line. They are—it is as simple as that. We really worked hard to make the issues local and relatable. Just saying that energy from waste is done successfully around the world is not good enough for your local community. Effective listening was certainly a priority. The main point of that is you need to face up to the hard issues. If they are real to the community then they are real. Perceived issues are real and they need to be addressed correctly. The last point I would make is that the EIA document or in our case the PER is not an effective communication tool for the general public. These documents are generally 700 pages long and they are highly complex. We believe a more high-level summary document would be far more appropriate for the digestion of community members.

In summary, we believe that the EPA really has a leadership position to answer the question, "Is best practice energy from waste safe for the community and the environment?" Every project and community is unique—that is something we believe strongly. We also believe strongly that using residual waste as a fuel to make energy just makes good sense. It does not make sense for this resource to continue going off to landfill if energy can be recovered from it. Mr Mason is based in New South Wales. We had a look at the amount of waste currently going to landfill and estimate that the energy in there would be enough to supply about 700,000 New South Wales homes. It is part of the future energy mix as well, in our opinion. Thank you.

The CHAIR: Thank you very much. That is very helpful. I loved your comments about community and perceived issues. It is the heart of understanding community. Well done. One of the greatest concerns of the community about some of the projects of this nature is the air contaminants. For your projects, what are the standards in relation to air pollutants and what kinds of things do you need to consider?

Mr PUGH: Certainly our air admissions standards will be the same as the policy says here.

The CHAIR: Who sets the policy settings—is it Federal, State or local**?**

Mr PUGH: The State environment protection authorities [EPA]s will set the limits. In Western Australia they will be policed, if you will, by the Department of Environment and Regulation [DER], which is a separate department to the EPA in our State. But we believe that the EPA or the DER is the right body to be monitoring it. In regards to projects and air emissions, we very much focused on the waste that would be treated at the project—we understand the problems here in that regard. We spent a long time doing that. We characterised the waste and we produced an ultimate analysis of that waste, which is basically breaking down all that waste into all its elemental forms. We then generated heat and mass balance, which basically shows how those elements will react in the thermal process and where ultimately they end up: Are they in the ash? Are they in the air? Are they removed by the air quality control system? With infinite detail we could show the waste that went in and how it was managed through the process.

The Hon. PENNY SHARPE: I am very interested in the work that you did in relation to identifying what was going into your plants so that we could identify what was coming out. I am wondering about the process that goes into that and how much you are able to break it down. How much "other" do you have in your percentage mix going into your facilities or proposed facilities?

Mr PUGH: In regard to "other", are you referring to waste that is uncharacterised?

The Hon. PENNY SHARPE: Correct.

Mr PUGH: We do not have any "other" going into our facilities. If I look at our East Rockingham plant, essentially it is municipal solid waste and it is residential construction and demolition waste and commercial and industrial waste.

The Hon. PENNY SHARPE: So it is all of it.

Mr PUGH: It is, residual. We have undertaken waste audits to characterise that waste and then, as I said before, we have broken down those waste characteristics into an ultimate analysis so we can understand everything about that waste. We think it is very, very important to understand the importance of the project.

The Hon. PENNY SHARPE: I also want to ask you about the process you go through in the materials recovery facility. Can I confirm that was a requirement that the EPA in Western Australia put on you in relation to your proposals for plants?

Mr PUGH: The Western Australian EPA has said that if waste can be feasibly recycled, it should be. The Pilbara region is pretty unique in that it is very difficult to meet the sort of thresholds that Sydney can meet

because of the distance to those recycling markets. There is not a hard and fast percentage recovery on the project itself.

The Hon. PENNY SHARPE: They have not set specific targets?

Mr PUGH: No, they have not.

The Hon. PENNY SHARPE: But there is an agreement about maximising that and you have to put it through the materials recovery facility [MRF] before it goes into the incinerator, is that correct?

Mr MASON: Our philosophy was we believe in the partnership that recovering material before the gasification or the thermal process is the right message. It provides opportunities over the 20-year life of a plant to provide flexibility. A MRF is not required, and another proponent has got a project approved but it is on residual waste without a MRF upfront.

The Hon. PENNY SHARPE: What are you doing with the residual after burning, which is often the toxic stuff? How are you disposing of that?

Mr PUGH: That is a really good question because one of the advantages of having upfront material recovery is that you are not putting things into the combustion process that should not be there. What I mean by that is sand, aggregate, glass; that should all come out as well as your recyclers. That certainly reduces the amount of bottom ash. One of the advantages of the technology that we are employing here—low temperature gasification—is that there is far less fly ash produced.

The Hon. PENNY SHARPE: Are you able to give us a sense of what percentage that is?

Mr MASON: What comes out from what we call the air quality control system—that is right at the back end, the bag house—is somewhere between 1 per cent to 2 per cent of the total. The bottom ash will be from 5 per cent to 10 per cent depending on the actual waste.

The Hon. PENNY SHARPE: Are you putting that into landfill? What is happening with it?

Mr PUGH: Certainly in the Pilbara they will be going into a class three landfill cell.

The Hon. PENNY SHARPE: In your submission you allude to the difficulty you have in getting onto the map in New South Wales as a result of the current EPA policy. I am interested in your perspective about that but the plans that you are proposing are basically of reasonably standard size. They are not these very large proposals; they are supposed to deal with local issues. Are you able to comment generally on the concern about the monopolisation of one incinerator and what that would mean in relation to other proposals across the State, not only yours but also others that you might be aware of?

Mr MASON: I will comment as a New South Wales resident in Sydney. Firstly, it is important to note that the policy has a context. Being part of the industry for 13 or 14 years, there was an eight-year vacuum of policy for thermal treatments. As an industry we really welcome the policy but when you are formulating the first policy after eight years I guess you are not always going to get those settings right. I think the EPA did a good job—they consulted, they listened—but at the end of that process, in my personal opinion, I think it was too restrictive on some of the threshold settings. In terms of size of plants, I cannot comment too much on the proposal at Eastern Creek but what we can say is that we have been successful it getting the community on board, the regulators, and prosecuting our case at 150,000, 250,000 or 300,000 tonnes per annum—we have two EPA approvals to show that. Monopolisation is interesting because there already exists one in the Sydney market with two lots of duopoly, so being able to have energy from waste I think will actually help. Apart from what has been proposed, I think getting a policy that is workable will actually help that situation.

The Hon. JOHN GRAHAM: In your submission you talk about the scalability of your technology.

Mr PUGH: Yes.

The Hon. JOHN GRAHAM: Can you tell us a little bit more about how that works because that is obviously a key flexibility in what you are proposing?

Mr PUGH: It is a modular technology, so essentially to scale up we add more modules. For the 100,000 tonne plant in Port Hedland we have two modules. Essentially the plant is quite scalable—we add more gasifiers to scale up. The part of these plans that is a bit more difficult is the steam turbine. They do not scale up so well. They are very expensive and need to be repeated, but essentially that is how we scale up.

The Hon. JOHN GRAHAM: But at Port Hedland you are operating really well below your approved threshold at the moment?

Mr PUGH: We are. We have approval for 225,000 tonnes there and we are going at 100,000 tonnes. Some of that is a commercial decision to manage the risk of feedstock but we felt that was the appropriate size to provide the right sort of support and flexibility into the future.

The Hon. JOHN GRAHAM: Do you see that that will scale up over time, or will you assess the market before making those decisions?

Mr PUGH: Again the Pilbara is a really difficult place about which to make that assumption. It is about mining. If the price of iron ore goes up we will see more waste. It is quite a unique part of the world.

The Hon. JOHN GRAHAM: I would like to return to the question that the Hon. Penny Sharpe was asking regarding the extent of the encouragement you have had in New South Wales, given the existing policy. I was interested, in particular, about the requirement to have reference plants. Can you tell us a little bit more about why that is a particular barrier for what you are proposing?

Mr PUGH: Sure. As we currently sit we do not have a waste-to-energy plant that is running on a light feedstock at this scale. We have a number of plants around the world. We have a number of plants in Europe that are currently operating under the European standards. We were able to show 10 years of continuous emissions results to the Western Australia Environmental Protection Authority [EPA]. They showed that we could get a good emissions performance. We are hopeful that Port Hedland will be our showcase. We say that on the basis that we firmly believe that these smaller, decentralised, flexible waste-to-energy plants are more palatable to the community, and probably better for the environment as well. This is about establishing that reference facility.

The Hon. JOHN GRAHAM: When you are up and running with these two facilities in Western Australia do you believe that that will provide a direct reference to what you might want to do in New South Wales, or are they two unique environments?

Mr MASON: It is kind of funny. I have a list as long as my arm of people who want to come and visit the plants. Everybody wants to be first to be second. What should not be lost is that we have gasification plants running on very difficult waste streams in various international jurisdictions that meet all the local EPA regulations, but as a total waste capacity it may be a tenth of the size of what we are building. It does not translate well to the current EPA policy. However, if you think about modular gasification you find that you have off-the-shelf world's best practice emissions control, which we were required to do to meet the standards. We believe that the New South Wales EPA policy could allow technologies and proposals like ours to be considered rather than saying, "If you do not have one exactly the same you cannot build it." That is essentially what is flowing out, which goes against the whole innovation spirit of the State. If the State wants to be a leader, then this cuts against that.

Dr MEHREEN FARUQI: Thank you very much for coming in and doing a fantastic presentation. The Rockingham facility obviously has not been built yet. Are you planning on building and operating that, as well?

Mr PUGH: We are. We are going to be building and operating a technology that has the same technology provider as Eastern Creek—a Hitachi Zosen Inova facility—but it will be 300,000 tonnes.

Dr MEHREEN FARUQI: That is 300,000 tonnes per annum?

Mr PUGH: Yes, per annum. I was recently in the UK, where Hitachi Zosen had last year commissioned a plant of that size in Buckinghamshire. They also have a reference facility on the Thames—right in the middle of London. So we are really confident about that. The reason we have done that in the Perth metropolitan area is that there is a preference for councils towards these more established technologies. In order for us to move that plant forward that is what we have done.

Dr MEHREEN FARUQI: Could you provide, on notice, a list of the plants that you have built and operated across the world. Would that be all right?

Mr PUGH: Sure.

Dr MEHREEN FARUQI: I have one more question that I would like to put on notice. Are you able to provide the waste characterisation of what both plants receive as feedstock?

Mr PUGH: Sure.

Dr MEHREEN FARUQI: On your website for the facility in Port Hedland you say that Boodarie Industrial Estate is the best location because, amongst other reasons, there is:

Good separation from the nearest residential land (approx 6km).

Could you tell us a bit about why a good separation from residences is important?

Mr PUGH: Sure. As I said in my presentation, all these projects are unique with respect to where they are in their communities. The Port Hedland community, right now, lives with a very poor landfill that is 200 metres from residents. It is a very windy environment. There is a lot of broken glass. There is a lot of windswept rubbish. That comment is in the context of the current situation. Certainly, this type of technology internationally is located in light industrial areas. It does not require a large buffer with communities. When we modelled the emissions from the project it showed that the ground-level concentrations were very acceptable, even within the parameters of the project itself. Certainly it is sensible to have a good separation with the community.

Dr MEHREEN FARUQI: Would you consider building a facility which is less than a kilometre from residences, given your vast experience?

Mr PUGH: No.

Dr MEHREEN FARUQI: Do you know how far away your facility is from the nearest drinking water source? We know that the facility being proposed in Eastern Creek is about five kilometres from Prospect Reservoir.

Mr PUGH: It is not that far in Port Hedland. The water there is sourced from groundwater. We are fairly close to that. Landfilling, particularly in this region with unlined landfills, is extremely dangerous to the water table. We will have zero discharge of effluent into the water table. So it is certainly far safer from that perspective.

Dr MEHREEN FARUQI: When you put your proposal in, were there any submissions or any concerns raised by the Department of Health in Western Australia? We know that the Western Sydney Local Health District in New South Wales has raised concerns, especially about air pollution.

Mr PUGH: We certainly did the public environmental review [PER] in consultation with the Department of Health of Western Australia. One of the issues in the community was ultra fine particles. That was fairly new science in 2012 when we were doing it. It was not a requirement of the health department but we commissioned an independent study to find out as much as we could on the subject. That is available on our website, and we would be happy to make that available to you. We will be staying up to date with that science as it develops.

Dr MEHREEN FARUQI: Earlier you were a little bit critical—correct me if I am wrong—about the New South Wales EPA policy with respect to waste to energy, but the two conditions that I think should be the basis of any approvals are, firstly, that energy recovery proposal should represent the most efficient use of resources and, secondly, that there should be no increase in the risk of harm to human health and the environment. Would you agree that those two conditions are the basic conditions for approval of such facilities?

Mr PUGH: Certainly I would absolutely agree with the first condition. I just think that the term "no risk" is very absolute. Is there a risk, when we start our car in the morning, to the environment and the community? What the WA EPA talked about was an "acceptable risk". It is not about being harmful to the community or the environment; it is about being reasonable and sensible. I have read all the submissions that have come through the current proponent, and a lot of those ask the question: is it safe? I do not believe that that has been adequately answered. I say that in the context that I do not believe that proponents should be trusted to answer that question. The community looks to the Government to answer that question, and I am not sure that that has been done.

Dr MEHREEN FARUQI: The Waste Contractors and Recyclers Association of NSW have said, in one of their submissions, that they have received feedback from members that suggest that the proponent's—the proponent of this facility in New South Wales—claim that there is an appetite for about 1.3 million tonnes of commercial and industrial waste for feedstock is not credible. The association says that its members suggest that there is not that amount of waste available for recycling and recovery so that what might end up happening is that waste that is able to be recycled might end up as burnt waste in this incinerator. Do you have any comments on that, given your knowledge of New South Wales?

Mr MASON: I really cannot say too much on that. All I know is that that facility is proposed to go in two stages. The way we would have approached it is to put a 250,000 or 300,000 plant in, get the confidence of the community, demonstrate that what we are doing is world's best practice and then go for an expansion.

The CHAIR: Following up from Dr Mehreen Faruqi's questions, if the right things were done in the right way and the right order and the EPA came back and said there was no significant concern about air pollutants, would it be fair to say that a development application for Western Sydney would be appropriate, given your submission talks about waste streams and what Sydney needs? Would you be agreeable to that?

Mr MASON: Sure.

The CHAIR: If the boxes were all ticked and community consultation has taken place, could we then leave it to highly trained people with their expertise to answer that question?

Mr PUGH: Yes, I think that is fair.

The CHAIR: I note in your submission you talk about two major landfills operated by Veolia and Suez. Are you aware that Veolia has a methane plant as part of its operation? Is that correct?

Mr MASON: Yes.

The CHAIR: Your next sentence is that this amounts to 1 million tonnes per annum and this waste could be used to generate energy but is currently lost. I am pretty sure Veolia is already harvesting methane from that landfill. Could you clarify your statement?

Mr MASON: Yes. My background is in waste. I used to manage the facility at Eastern Creek for the state-owned business that we sold to Suez. There are a number of landfill gas engines and capturing the methane. However, it is highly inefficient compared to waste to energy that can capture it.

The CHAIR: But that is not what you say in your submission; you say it is not being captured. Would you like to correct that for the record?

Mr MASON: I am sure I can correct that.

The CHAIR: Does Woodlawn generate methane?

Mr MASON: Yes, it is the same as the others.

The Hon. SHAYNE MALLARD: In your submission and in your presentation you talked about the materials recovery facility as an entree to waste to energy recovery. Your model covers the whole journey of the waste recovery until it is incinerated. Do you think that is a sustainable model? My understanding is that the Eastern Creek proposal is for just an incinerator that will source its resources from elsewhere. Am I right in saying that?

Mr MASON: My understanding is that the Eastern Creek facility is all residual waste, so it has already gone through a recycling process.

The Hon. SHAYNE MALLARD: But it is from somewhere else.

Mr MASON: Yes. They would have their own recycling facility on that site. It could be similar. We would do some on our site, but if there is a waste stream that had already gone through a process—and there are various ones in Western Australia like the Southern Metropolitan Regional Council has a residual after its process—that would be a suitable fuel to come to our facility rather than going to landfill.

The Hon. SHAYNE MALLARD: Is a standalone incineration operation typical of what you are doing?

Mr MASON: Yes, absolutely. If it meets requirements of the waste hierarchy.

The CHAIR: Returning to your submission, you talk about waste levies. You say New Energy Corporation strongly supports the New South Wales landfill levy as an essential tool to encourage recycling and divert waste from landfill. I am a former mayor of Shoalhaven and so I have seen millions of dollars go to the State Government, yet the initiative was about diverting waste from landfill into other initiatives that would recycle and make better use of that waste. Could your comment to be tempered with the fact that it should be hypothecated to the area where it is collected, so the area can continue to fund initiatives?

Mr MASON: Yes.

Mr PUGH: We totally agree with that.

The CHAIR: So it should be 100 per cent hypothecated to the area?

Mr PUGH: Sure.

The CHAIR: I think that was the spirit in which it was initially put up under the Labor Party, which was trying to drive environmental initiatives, but it seems that is not happening at the moment. Would you agree to hypothecating the section 88 waste levy to increase removing waste from land?

Mr MASON: Absolutely.

Mr PUGH: I would like to add a comment to that. Certainly what we are seeing with the metropolitan councils in Perth is a strong push towards waste to energy. This is one of the key problems. Our levy is only $65 a tonne, so it does not quite match yours, but they get even less back. It is a bone of contention and member councils' cost of waste disposal just keeps going up and up. Waste to energy presents an opportunity for them to slash their waste disposal costs to the benefit of the community. They are moving towards those outcomes.

The CHAIR: The point I made to the EPA was that it is double-dipping. You talk about particular technology being used in Sydney, the Hunter and the South Coast, and I know that the South Coast is trying to work with joint councils to work out their waste use. If that money was hypothecated, they would be more than able over a five-year period—because it is about $50 million—to undertake a project like this that would keep more waste out of landfill.

Mr MASON: Absolutely.

The Hon. JOHN GRAHAM: What is a low temperature in your case?

Mr PUGH: The technology would be acceptable under the current policy. Essentially, we have a first-stage gasification process. We put the waste in, and that is at about 600 to 800 degrees Celsius. It is an oxygen-starved environment, so we are not letting the waste go through to full combustion but we are creating a synthetic gas. It then goes to secondary syn gas burner, where it is ignited at 850 for two seconds.

The Hon. PENNY SHARPE: Do you go to 850 because of the chlorides?

Mr PUGH: And air toxicity; it is just best practice for air emissions.

The CHAIR: Thank you for your great presentation. We may put some further questions to you on notice, and you would have 21 days in which to answer them. The committee secretariat will be happy to help you with any further questions.

Mr MASON: I would like to table some documents. They are our EPA approvals from the Minister, the Clean Energy Finance Corporation's letter and a brochure.

The CHAIR: Thank you very much.

(The witnesses withdrew)

(Short adjournment)

GARTH LAMB, NSW Branch President, Waste Management Association of Australia, affirmed and examined

GAYLE SLOAN, Chief Executive Officer, Waste Management Association of Australia, affirmed and examined

RON WAINBERG, National Chair, Resource and Energy, Recovery Division, Waste Management Association of Australia, affirmed and examined

The CHAIR: Does anyone have an opening statement they would like to present?

Ms SLOAN: I do, and I promise to be brief. We would like to thank honourable members for the invitation to present today. The Waste Management Association of Australia [WMAA] is the national peak body for the waste and resource recovery sector. Our vision is to lead the success of the industry in Australia. At present we have over 1,500 members throughout Australia who come from all parts of the sector, including large and small private waste and resource recovery companies, State and local government, and private consultants. WMAA is the only association that represents this breadth and depth of the sector, and it is this breadth and depth that makes WMAA representative of the sector.

In all that we do we are guided by the following principles. Waste and resource recovery is an essential service and its infrastructure should be strategically planned. The environment and community is protected through the safe and responsible management of waste. The waste and resource recovery industry does drive jobs and industry and the economy. The priorities of waste management hierarchy for the efficient use of resources are supported and promoted in all we do and the industry produces secondary raw materials to the economy. WMAA supports landfill levies in New South Wales. Why? It incentivises diversion and increases investments in alternative technologies and in New South Wales has been a critical factor underpinning the development of resource recovery infrastructure.

New South Wales currently has far and away the biggest recycling sector of all the Australian jurisdictions, recovering 10.7 million tonnes of material from the waste stream. Recycling rates are much higher in those States that have levies—New South Wales, South Australia and Victoria—compared with other States with no levies. While cheap disposal is not the only barrier to developing this sort of long-term infrastructure in other States, it is clear that landfill levies can underpin a level of private investment that is not viable in jurisdictions where landfill is cheap. Interstate waste transport highlights the importance of pricing laws and influencing behaviour. Specifically, a large volume—currently estimated at over 600,000 per annum—of waste is transported out of Sydney due to the cheap disposal options in south-east Queensland where there is no landfill levy. This activity undermines the New South Wales waste sector and especially the ability for New South Wales operators to invest in new resource recovery capital.

WMAA strongly advocates for a common approach to levies nationally, recognising that reduction levies would undermine existing and future infrastructure investment in New South Wales. WMAA advocates that other States should follow the lead of New South Wales and provide strong market-based instruments to encourage investment in resource recovery. In the absence of this occurring, New South Wales should look to workable alternatives to the current proximity principle, such as the legal liability following the waste, irrespective of where it is disposed.

As you have heard today, a number of New South Wales landfills have closed in recent years with the consolidation of disposal around a small number of high-capacity sites. With the recent closure of Belrose landfill and the imminent closure of Eastern Creek landfill, Sydney's disposal options for putrescible waste will soon be limited to Suez Lucas Heights landfill and Veolia's Woodlawn facility, which is 250 kilometres to the south of Sydney and accessed by rail from Clyde and Banksmeadow. Waste generation rates continue to increase—on average, 2.2 per cent per annum compared with a population increase of 1.5 per cent per annum—and unless additional resource recovery capacity is developed, New South Wales will eventually need to develop a new landfill or landfills to service the Sydney population. The application of a landfill levy to assist in funding further infrastructure is critical to ensure that preference is given to the development of new resource recovery infrastructure rather than new disposal at these landfills sites.

If the objective is to develop a more competitive market then serious thought must be given to streamlining current planning and approval processes in order to provide the market with a high degree of confidence in the ability to develop new facilities. We note that the development of new energy from waste facilities would increase market competition compared with the current situation, given it would provide a new opportunity for managing materials which are currently disposed to landfill. WMAA is supportive of the current

Waste Less, Recycle More program. However, we would also encourage the current caps on the amounts and requirements to match funding to be reviewed to enable larger capital grants to be obtained to assist in delivering the essential infrastructure in New South Wales.

This spending needs to be underpinned with clear strategic direction and infrastructure planning for waste and resource recovery facilities in New South Wales. Currently there is no adopted waste and resource recovery infrastructure plan in New South Wales, nor a strategic vision for waste and resource recovery in New South Wales. We think this is a missed opportunity that, to date, bodies like the Greater Sydney Commission do not appear to have had a role in addressing. It is submitted that waste and resource recovery infrastructure is too important to be simply left to the market alone. Absolutely the market is best placed to design, develop and build such infrastructure in a competitive environment; however, it requires the clear support of government at all levels, which must have a clear vision for what it wants, where and what is required, and then provide the appropriate legislative, environmental and planning support to ensure its delivery.

WMAA believes that there must be a New South Wales infrastructure plan for waste and resource recovery, identifying appropriate precincts and locations that support the growth of Sydney. This must then be supported by State environment planning policy to provide clear development pathways. In the absence of this support, New South Wales can continue to see facilities closing and no real planning or discussion with industry as to what is required into the future. By global standards, New South Wales has relatively high recycling rates; however, a comparison against other comparable countries demonstrates that the amount of material disposed to landfill is also relatively high in New South Wales. A key reason is that on top of having well-established recycling systems, many countries also have access to energy from waste.

WMAA strongly supports the concept of a waste management hierarchy that ranks ways of dealing with waste in order of preference, with avoiding the creation of waste the most desired outcome and the disposal the least desired outcome. This hierarchy concept, which sets priorities for the efficient use of resources, has been widely adopted by various government bodies in Australia and internationally. In accordance with the waste hierarchy, WMAA supports the view that where further recycling is not feasible, it is preferable to recover the energy from the material and feed it back into the economy rather than disposing of this material. This must be undertaken in a manner which is acceptable to the community, including managing the risk to human health, harm, and environment.

WMAA will not be commenting on individual development applications; rather, we can comment generally on WMAA's support for energy from waste as part of the waste management hierarchy. The role of energy from waste is to recover embodied energy from materials which cannot be reused or recycled and would otherwise be put to landfill for disposal. Ignoring this step in the hierarchy would in itself represent a waste of the energy resource. It is important to stress that energy from waste is not a means of waste disposal but a means of recovering resources—that is, energy from waste—which otherwise would go to disposal.

There are four broad approaches to the recovery of energy from waste via thermal processes. Within each there is a variety of technical options on the market, each representing a propriety process offered by respective designers and suppliers. Typically in other OECD countries the majority of energy for waste plants are sized between 200,000 and 500,000 tonnes per annum, being a size which manages the waste arising at a region of facility services. Larger facilities are in existence for development. However, these tend to serve very high density metropolitan areas where the volume of waste arises locally. These tend also to be well served by alternative transport infrastructure, such as waste by rail or river, to manage most local traffic impacts.

Local government in New South Wales potentially could play this role in providing the future feed stock for these facilities following the waste hierarchy. It should be possible for councils to direct the residual municipal solid waste [MSW] to energy for waste rather than landfill. However, one of the current barriers to this being successfully pursued in New South Wales is that individual councils on their own do not generate enough in sufficient size and scale to approach the market to deliver such a facility. Guidance is required from State Government to encourage joint procurement, including potentially amending the Local Government Act to enable this procurement to occur between councils, including potentially longer-term contracts providing the industry with certainty.

If energy recovery were the only technology to be employed in managing waste to achieve landfill diversion, recycling and recovery of material resources would be limited. We accept that paper, cardboard and plastics currently recovered would be lost to energy recovery. However, this is not possible under the New South Wales policy. The New South Wales policy restricts the waste materials that can be processed through an energy recovery system, effectively mandating that recovery of recyclable resources be undertaken prior to the recovery of energy from the residual material. Restricting the feed to energy from waste in this manner will

ensure that recycling is unaffected by this technology so that the integrity of the waste management hierarchy is maintained. WMAA recognises and supports the fact that the New South Wales energy from waste policies incorporate many international best practice standards. However, we have made a series of recommendations in our submission which would further improve this policy.

WMAA supports the current provisions of the New South Wales State Government through the Environment Protection Authority [EPA] to monitor environmental performance of these energy from waste facilities. We believe that the New South Wales EPA, as opposed to local government, is best for monitoring such facilities. In conclusion, WMAA is highly supportive of the majority of the policies for New South Wales the EPA undertakes in relation to waste from resource recovery. We support levies and believe that New South Wales has shown leadership in the space and would advocate a national common approach to these.

We believe that waste is an essential service and that it should be improved through strategic management and direction of this in New South Wales with the adoption of an infrastructure plan for this sector supported by the Western Australia State Administrative Tribunal [WASAT]. Waste energy should be part of the infrastructure contemplated by the strategic approach in accord with the waste management hierarchy. New South Wales needs to start actively addressing and supporting the circular economy in all its policies to reduce reliance on natural materials and start creating real markets for secondary materials from waste. Thank you.

The CHAIR: Can you quickly explain what circular economy means?

Ms SLOAN: I jumped that paragraph. I was trying to be mindful that I was on limited time. We support the circular economy. We believe strongly that waste and resource recovery is well placed to deliver that in New South Wales. The linear idea of make, take, use and dispose approach to resources is just not sustainable. We believe there must be a shift towards keeping materials in use circulating as long as possible; so that is taking your paper out of your bins and making it into other paper. We actually are reducing reliance on natural resources. At a time when energy prices are high and manufacturing is decreasing in Australia, the waste and resource recovery sector offers real alternatives assisting both of these.

Government needs to assist us by looking at sustainable procurement methodologies. We did not cover it here but there is a real issue with glass in New South Wales and how we recycle glass into some other product. If we had mandated procurement of recycled material in roads, for example, we would then create secondary markets for those products to go into. New South Wales on that front is falling behind, I would advocate. For example, South Australia's green industries have actually just launched their circular economy benefits for South Australia. They are actually gearing their whole economy up to look at how they could bed circular economy in what they do by recycling and remaking product.

The CHAIR: Are you able to forward that document to us?

Ms SLOAN: Yes. I can send you a link to that.

The CHAIR: That would be helpful for us instead of chasing it.

Ms SLOAN: Yes. That is great.

The CHAIR: You spoke about waste levies and of course everybody seems to be in favour of them. Would you be in favour of them being hypothecated towards local or regional waste recycling projects rather than just going in the general revenue and most areas not getting the actual full amount from those levies?

Mr LAMB: There certainly are different ways that you could hypothecate that back. I think the general principle, as you say, is one that supports the theory of levies and supports the application of levies. I think in terms of hypothecation, of course as an industry we would like to see more of that money come back to support what we do. I guess the tension is making sure that the levy still effects what it needs to do; it drives behaviour change. Rather than just catch and pass the money back and forth, I think if that money came back in a more substantial fashion to people who are investing in the right infrastructure, that would be very positive. Certainly the WMAA submission talks about whether we can find a way to give bigger grants to some of the larger infrastructure projects than what is available through the current mechanism.

The CHAIR: That brings me to the second point. You talk about us probably being behind the eight ball, really, in terms of infrastructure across New South Wales to deal with waste at the level we are hoping to deal with it. Do you want to talk about how the base levy could affect future infrastructure planning, or how it could be better harvested to get those results?

Mr LAMB: I think that question of future infrastructure planning is a very pertinent one. I did note that Steve Beaman mentioned this morning that there would be some work coming out on that sometime soon.

That is something that the industry and WMAA certainly very actively support—a strategic plan for infrastructure to manage the waste. The reality is that there is waste. We all put effort into and try to do what we can to minimise that generation. That is a really important part in line with that hierarchy. However, there is still waste that needs to be managed and having a strategic plan as to how we are going to do that, the current approach of leaving that purely to the market is challenging. There are a lot of issues with planning and development. Having a more strategic approach to setting out what infrastructure is required, where it would be located—the market is very good at delivering the infrastructure, but it is difficult if we do not have a clear vision as to where it is going to go and how it will be used.

The CHAIR: Ms Sloan, I think you made a comment on the fact that the Greater Sydney Commission has not been brought in on the concept, given the fact that waste will be a large part of its planning outcomes.

Ms SLOAN: The documents that we have seen to date do not. They have a comment at something like page 154 of 167 that there are two landfills to service metropolitan Sydney. There is no discussion about how that will happen and what their needs are going forward. I think that anticipates 800,000 new residents over the next 30 years. We know that we are still generating waste at 2.2 per cent per annum. There is a need to address how that will be done. Obviously, we are not advocating landfills. But if we have a strategic plan that assists in saying where we need those facilities, not being prescriptive as to the types of facility—the market can do that—and if we could with certainty know that we can put a planning application into a precinct—and it may be an existing site that has the existing facility; it could be Belrose or one of those that have closed—and if we had certainty that we could invest in that precinct, as an industry that would help everybody.

The CHAIR: That is a very good comment. It flipped me back to a trip to China where waste seems to be the last thing that people think about in urban growth.

Ms SLOAN: Yes.

The CHAIR: But it actually needs to be one of the first things.

Ms SLOAN: Yes.

The CHAIR: In terms of policy settings and regional waste issues like energy from waste, do you think there should be regional restrictions as opposed to greater metropolitan Sydney, or do you think that those opportunities for regional use of energy from waste should be the same?

Mr LAMB: I think we would always advocate for outcomes-based policy, the application of that. There should be a standard health standard that should be developed safely for the population and for the environment, wherever it is. I do not think we want to see a two-tier system where there is a different set of rules in a regional area to the metropolitan area.

The CHAIR: Not so much a set of rules based on health but a set of rules regarding what they can or cannot do, or the quantity that they can or cannot burn for energy. There seems to be two sets of rules there.

Mr LAMB: I am not sure that there are two sets of rules currently. I agree that there are certainly challenges in regional areas; for example, having a third bin system is less practical when you have a very large local government area [LGA] in a regional area and that impacts on how much you can send to energy from waste as opposed to a metropolitan council. In general, I think having a level of common sense and sensibility applied to planning applications would be a great thing if people could make that case rationally.

Mr WAINBERG: Could I just comment?

The CHAIR: Yes?

Mr WAINBERG: There are three legs to the stool. There is the social, there is the environmental and there is the financial. In a lot of cases it does not make financial sense to build massive infrastructure if you are only going to process a couple of thousand tonnes per annum of waste so you have to temper the whole thing, look for opportunities to consolidate the material where the transport is viable otherwise you are going to have different solutions in different places but I would not be prescriptive about it. Let the reality of each individual area's situation make that decision but do not hamper it, do not force a predetermined outcome by being restrictive in the way the rules are applied.

The Hon. PENNY SHARPE: Thank you very much for your submission; it was very comprehensive and a very good read. I want to draw a few issues out of your submission that I am very interested in. Can you tell the Committee more about the extended producer responsibility [EPR] and how that works in other places and from your perspective why Australia and perhaps the States are so far behind on this?

Mr LAMB: There are a few items. The waste management system is an end-of-pipe solution. We are trying to do everything; particularly as you move into a resource recovery focus it becomes difficult with some of those materials. If you are just burying everything in a big hole in the ground it might be slightly less challenging to look at what is in the material stream but if you are moving to an advanced resource recovery system where you are actively trying to maximise it, materials such as—one of the issues is lead acid car batteries; those materials going through a recycling facility become a much bigger problem so there are specific problematic waste streams that probably need a different approach than just having a catch-all, end-of-pipe solution. There are a number of those items; there is a list in New South Wales of priority EPR items which is occasionally reviewed and a Federal list. There are certain parts of the waste stream that could be better managed with a specific solution rather than as part of the general waste stream.

Ms SLOAN: I just add to that a general policy approach. I think extended product responsibility as a general way of how products come to the market is really important. If we think about the waste hierarchy and whether something you bring to market—and the Container Deposit Scheme [CDS] is a classic example of how you manage to divert that from landfill. The concept is you have to think about originally avoiding creating waste in the first instance but what is your home for it at the last instance? WMAA is very keen on talking to generators as much as just being seen at the end of the chain. Everything that you build, be it construction and development, where does the waste from that come, how do you refurbish, et cetera? For us it is about saying—referring to what the Chair said earlier—waste tends to be at the end of the process when really we need to be at the beginning of the thinking and extended product responsibility personifies that for us.

The Hon. PENNY SHARPE: Can you point the Committee to places that you consider are actually doing it well? You state in your submission there was a big conference in Tokyo in 2014 and there was agreement around the OECD about this being a good idea. Can you point out places that are good examples that we might consider?

Mr LAMB: The European Union recently released a policy on circular economy and extended producer responsibility. I believe we have provided a link there but if we have not I will send it to you. I think possibly the other point that we have not emphasised is that there is also an equity question in that some of those problematic materials are more expensive and more difficult to manage—and moving away from a system where waste is the cost of the whole society equally to a point where the polluter pays principles of those who profit from and use materials shoulder the burden to make sure that they are responsibly disposed rather than it being a general community issue.

The Hon. PENNY SHARPE: Asbestos being one that we have done.

Mr LAMB: Yes.

Ms SLOAN: That is a big problem.

The Hon. PENNY SHARPE: We have talked a little bit this morning about the problem of this year almost 700,000 tonnes of waste going to Queensland and New South Wales missing out on all of the waste levies from that, as well as obviously constitutional issues around State trade. Can you provide your organisation's perspective on how we deal with that?

Mr WAINBERG: The Waste Management Association of Australia is not supportive of that type of trade. It is unfortunate there are constitutional issues, as you allude to. To be frank, it is absurd that waste is being transported such a long distance for cheap disposal with the environmental impacts of that transport, the road impacts of that transport and the undermining of an industry that has been developed in New South Wales to handle that material as well as the loss of government revenue, leaving aside the whole issue of hypothecation.

Mr LAMB: I also add that I think the clear answer is for Queensland to introduce a levy; that would address that issue. I also suggest that the benefits that WMAA has highlighted for New South Wales of having a levy and having investment in resource recovery, having money to hypothecate and then argue about how much do we give back to industry—all those benefits Queensland is missing out on. The Queensland resource recovery sector is not as advanced as New South Wales because it does not have that framework.

Mr WAINBERG: They did have a levy.

The Hon. PENNY SHARPE: Campbell Newman got rid of it.

Mr WAINBERG: They had a levy for a short period of time and then he got rid of it. When you look at the recycling in Queensland it had a blip. It went up when the levy was introduced; he took it away and it went down.

The Hon. PENNY SHARPE: The EPA this morning said that there is a national EPA group and they are all talking about it but it is not on the agenda for the environment Ministers conference that is coming up in the next week or so. Are you aware of any attempts through the Council of Australian Governments and environment Ministers to get this on the agenda and where is it at, given that it is not on the agenda for next week, for example?

Ms SLOAN: To be fair to the EPA, they are acutely aware that this is a problem in New South Wales. Obviously the industry talks to them a lot because based upon the levy being in place decisions are made by our members to build landfills based on certain stock they are going to be getting, for example. The EPA has been working very well with us. They currently have the proximity principle in place which is proving to be difficult to enforce.

The Hon. PENNY SHARPE: It sounds like they are not able to enforce it essentially?

Ms SLOAN: Yes, well, they are currently doing research to take onus and it is definitely on the officers group but it is not ready to go to the Ministers group and they are looking at a number of solutions to progress. It is hampered slightly by Queensland saying that they will not introduce a levy in this term so post-election—

The Hon. PENNY SHARPE: It sounds like something that we will have to talk to our colleagues about.

Ms SLOAN: —we are all very excited that there might be a levy introduced but I would say that the EPA is acutely aware of the need.

The Hon. PENNY SHARPE: Yes, I am not trying to have a go at them. I am just interested, given it is such an issue—Mr Beaman spoke this morning that it is an issue between Victoria and South Australia as well—surely this should be on the agenda if we are all heading towards the same direction, which is we actually want to recover and reuse as much waste as we can. This just works in the opposite direction.

Mr WAINBERG: I would point out the fact that there is a need for harmonisation of the levies and, in my personal opinion, for the levy to go with the waste is really exemplified by the fact that Sydney-Brisbane is not the only problem. You have got rural Victoria going into the non-levied areas of New South Wales and you have the Australian Capital Territory going into the non-levied areas of New South Wales so it is not just that; it is a bigger problem than just Sydney-Brisbane.

The Hon. PENNY SHARPE: I am very interested in the procurement issues that you raise in relation to local government and the need for longer time frames to lock in contracts. Can you give us an overview of the standard contracts and what you are looking for?

Ms SLOAN: The issue about locking in contracts is probably more to do with the end of use, not the collection vehicles as such. Collection vehicles can be anywhere between five, 10 or 12. Wollongong-Shellharbour recently was 12 years. Brisbane has approval to go eight plus eight so it is potentially 16 years. They need that for their capital investment for renewal of trucks, et cetera. What we are talking about is that it is very challenging to get together enough tonnes to build a facility with certainty so an individual council with its own generation may not be able to give you enough feedstock to guarantee building a facility of this size and scale to make it economic. At the moment every council quite rightly under local government has to go back and resolve with their own individual council to do certain things. It is quite difficult to build up a specification and get a standard resolution, so what we are talking about is potentially something like the Regional Organisation of Councils [ROCs] agreeing—

The Hon. PENNY SHARPE: I was going to ask you where the ROCs fit in?

Ms SLOAN: The ROCs do not have any power. They do share services, but they cannot join in resolve to do things and override a council, because you cannot bind a council. We had some changes to Local Government Act a few years ago with the private-public partnerships that went some way, that could potentially set the groundwork for doing a partnership, but with the waste, in order to do some of these alternative waste treatment facilities you need a certain amount of stock, so if they could come together as a region and agree to enter into a long-term contract with capital, we would actually get some of these facilities potentially being delivered, if that makes sense.

The Hon. PENNY SHARPE: That is great—thank you.

The Hon. JOHN GRAHAM: Returning to the Queensland issue, obviously it would be better if Queensland adopted a similar levy. I want to ask about your conclusion that, if that does not happen, the levy liability might follow the waste. If we were driven to that, how would it work? Can you give us more details?

Mr LAMB: That is already the case. There are different levies in New South Wales—for example, the metro waste levy follows any Sydney waste that gets disposed of at a site outside the metro area. It is a mechanism that is already there. I guess the challenge is that that is one thing when you are looking at a large-scale local government contract. It would be more challenging with some of the waste that is being transported being project based. People are not necessarily as accountable for it over that time. There is no doubt that if it was an easy answer it would have already been implemented. It is an idea—

Ms SLOAN: It is the cross-border issue. If you move it within New South Wales, obviously we are in the one jurisdiction, but again we would need some sort of referral of powers which is, I guess, what they are talking about now with the cross-border, if you move out of the levy. It does need participation from the other State to agree to do it. I guess that the theory would be that, as soon as you knew the New South Wales levy was applicable wherever you went, you just would not bother. It would stop.

The CHAIR: Mr Wainberg did say that not all parts of New South Wales have a levy system.

Mr WAINBERG: Correct.

Ms SLOAN: That is correct. We have different rates in different zones.

The Hon. JOHN GRAHAM: There may be some incentives for the Queensland team to agree to that, even though it may not be adopting the levy itself.

Ms SLOAN: Yes. They could be true to their policy of not implementing a levy.

The Hon. JOHN GRAHAM: The EPA this morning indicated that, with its grants program, there were unspent funds or allocated grants which were unable to be spent on local councils. What is your view as to why that was the case? It sounded as if a significant number of grants available may not be taken up.

Mr LAMB: One of the challenges we have touched on in here is around the planning frameworks and the ability to deliver. It is one thing to identify the need for infrastructure; it is another thing to actually be able to physically deliver it through a planning framework. As I understand it, a lot of those grants were time bound, and trying to move anything through a planning framework in New South Wales can be challenging. I am aware of a couple of those projects where the key challenge has been that the concept has been solid and people want to deliver it but are not going to be able to deliver those outcomes within the time frames that were required for the grant. That is my understanding of one challenge, at least.

The Hon. PENNY SHARPE: To clarify: There is no flexibility in the way that the EPA manages it. Is that because it is stuck with rules that it has to spend the money within a particular time? When the Committee looks at making recommendations, it seems that that is quite an easy one—

Ms SLOAN: It does have the ability to review time frames, but I think you have to be able to subscribe and agree to certain milestones, to be fair to it, and know it is deliverable. From an industry perspective, I am not sure about with local government, but you do have to match funding and you do have a cap on how much funding—from memory, it is $500,000 and you have to match it. So if you have competing priorities in council, it might be quite difficult to get those matching funds, because it is not whole, and it is unrealistic to expect that you can deliver waste and resource infrastructure for $1 million. Generally our capital investments are large-scale initiatives. We do not have the flexibility in the current scheme, as I understand it, to put in a one-off grant for a large amount of money. Whether it is matched or unmatched, I think $1 million is the project. To get some real capital going to do something really good—like deal with glass, for example, in New South Wales—you cannot do that for $1 million.

The Hon. JOHN GRAHAM: I know you do not want to comment on individual projects, but would you agree with the principle that any significant project of this kind would need the support of the EPA to progress?

Mr WAINBERG: You mean the energy from waste?

The Hon. JOHN GRAHAM: Yes.

Mr WAINBERG: Yes. It should have the EPA's support but it should also meet the EPA's requirements for emissions and all the rest. That, to my mind, is non-negotiable.

Dr MEHREEN FARUQI: In your submission and in the evidence you have given this morning, you talked about European countries that have combustion of waste-to-energy facilities. Is it right to say that most of those countries have also put in much more work and have much better policies in achieving the higher order objectives of the waste hierarchy in terms of waste avoidance, reuse and extended producer responsibility? In fact, they produce a lot less waste than we do in New South Wales per capita.

Mr WAINBERG: I would have to check the figures on that. I do not believe that it would be—some would be more; some would be less. As a general rule, the amount of waste that one produces in society is a function of the affluence of that society. We have this unfortunate culture of maintenance by replacement: Throw it out and buy a new one.

The CHAIR: Sadly, it is often cheaper.

Dr MEHREEN FARUQI: Leading on from that, do you think Australia and New South Wales have much more work to do in waste avoidance and reuse?

Mr WAINBERG: Certainly. We should be doing it all. There is no silver bullet with waste management. There is a hierarchy and every step of that hierarchy needs to have attention.

Dr MEHREEN FARUQI: How do you classify waste to energy? Is it an end-of-pipe solution?

Mr WAINBERG: No, landfill to me is end of pipe.

Dr MEHREEN FARUQI: It is just one level above—

Mr WAINBERG: It is one level above it. You recognise that you cannot recover the physical resources that are in the waste stream. There is an energy content. Rather than throw that energy away, recover it in preference to disposing.

Dr MEHREEN FARUQI: As I said, you gave examples of many waste management facilities across Europe. Could you give us an idea of how big those facilities are in comparison to the current proposal for Eastern Creek?

Mr WAINBERG: Typically 200,000 to 300,000 tonnes per annum.

Dr MEHREEN FARUQI: That is much smaller.

Mr WAINBERG: Smaller, yes.

Dr MEHREEN FARUQI: I realise that you do not particularly want to comment on individual facilities but, given that New South Wales has no waste-to-energy facility, do you think it is wise to jump from zero to 1.3 or 1.4 million tonnes per annum?

Mr WAINBERG: I think that is the commercial risk that the proponent has to make his own judgement on.

Dr MEHREEN FARUQI: Given your experience in these facilities, do you think there is a bigger risk when you have nothing—

Mr WAINBERG: Not a technical risk, no.

Dr MEHREEN FARUQI: So there would be no risk?

Mr WAINBERG: Not a technical risk, no.

Mr LAMB: Given that earlier comment around the EPA, I think we trust that there is a framework in place and that the EPA is appropriately resourced and has the technical skills to be able to assess whether a project is right for New South Wales or not. Rather than it being a question about an exact tonnage limit, ensuring that the regulator is able to look at a holistic view of the project and come up with a sensible outcome is, I think, what we would advocate for more than looking at any one specific item on there.

Dr MEHREEN FARUQI: You have not assessed this particular proposal to establish what your view might be on it and the concerns that you have.

Ms SLOAN: It is not our role.

Dr MEHREEN FARUQI: No, it is not your role, but given that you are a waste management organisation—

Ms SLOAN: As you said, it fits within the hierarchy. We are supportive of innovation and encourage innovation. Just because it has not happened does not mean it should not happen. It definitely has a place in the hierarchy. Anything is better than landfill.

Dr MEHREEN FARUQI: I presume you know the intricacies of the NSW Energy and Waste Policy Statement. Would you support these two conditions before a facility is approved: that any energy recovery proposal should represent the most efficient use of the resource and that it should have no increase in the risk of harm to human health in the environment?

Mr WAINBERG: Yes.

Mr LAMB: I think that it would be interesting to see the baseline that you compare that to. I do not think you can assess a project in a vacuum; you need to be looking at what the alternative is.

Dr MEHREEN FARUQI: That is understood, but if there is no increase in the risk to human health and the environment, would you support that?

Mr LAMB: I think so, but I would point to the fact that it is challenging to understand that baseline for some of these other things. One of the interesting issues with energy from waste is that you are managing the waste instantaneously, basically. Whatever the risk is, you are managing it today, as opposed to landfill, for example, where you are deferring that management for potentially hundreds of years. When it comes to energy collection or greenhouse gases, with a piece of waste that goes through the air, 20 years later you will still be recording an emissions profile from it, which is a very different baseline to compare against when you are looking such as energy from waste. I am just recognising it is not a simple area. It would be very difficult to set those—

Dr MEHREEN FARUQI: Risk assessment is never a simple area, but there are reasons we say there should not be an increase.

Mr LAMB: Yes.

The Hon. SHAYNE MALLARD: Thank you for your submission. It appears this new technology is arriving in New South Wales one way or the other as part of the recycling waste recovery stream. In your submission you spoke of planning certainty. You called for a specific State environmental planning policy [SEPP] around waste to energy?

Ms SLOAN: Waste and resource recovery facilities generally.

The Hon. SHAYNE MALLARD: Can you expand upon that? Certainty for planning is certainty for investors and a strategy from the Government tells them where we are going. What do you suggest around the planning?

Ms SLOAN: I would start with an idea of where you can or cannot build. At the moment you generally do it in industrial zones with some idea of certainty. You do have to step through the normal planning requirements, but we have an idea of where you could locate a waste facility so it is not a surprise to the neighbours. Nobody wants a waste facility near them. That is a real challenge. If we had precincts identified in New South Wales, and I will use South Australia as an example, they have a waste precinct outside the city. You know you can go there, and as long as you meet the planning requirements you will get the application through.

Other than potentially Eastern Creek and a few existing sites such as Belrose we do not have waste precincts that people recognise as waste precincts. It makes it harder and longer to get applications through. I went through a planning application in metropolitan Sydney in a correct site. It goes through a State significant development. It was purely a transfer station of dry recyclables. In 12 months we could not get an approval through. It becomes an issue where people are assessing this and not necessarily understanding the greater good. If we do not have facilities to take waste we have a real issue. We cannot keep transporting it 250 kilometres outside metropolitan Sydney.

The Hon. SHAYNE MALLARD: It is very controversial in local government. I was on City of Sydney council and we were involved with Burrows Road?

Ms SLOAN: We still are.

The Hon. SHAYNE MALLARD: Because of the gentrification of the area.

Ms SLOAN: That is still a zoned precinct.

The Hon. SHAYNE MALLARD: It is the same at Liverpool and South West Sydney with recycling and waste plants. There is more and more residential pressure.

Ms SLOAN: The buffer zones are an issue. They are getting closer and encroaching upon existing facilities that people knew were there. We understand there has to be growth and urban development but we need to provide basic services to residents.

Mr WAINBERG: Buffer zones should be buffer zones, but they tend not to be respected over time.

Mr LAMB: The comment earlier about waste being the last thing that people think about in an urban planning sense. That is very true. When the waste industry works, and the waste industry is good at what it does, most people do not need to think about what happens next because they wheel their bins out, it magically disappears and they do not think about it again. Because our waste system works so well in New South Wales people forget how essential the service is that we are providing. If you look at what happens behind the scenes for that to seamlessly happen and for those trucks to be able to pick that up, each of those trucks, once full, has to be able to get to a piece of infrastructure to drop that off. Whether it is a final end place or a transfer station, if you cannot get to that you end up with more trucks on the road. People at an individual level do not think about it. I am thrilled that we are having a conversation with you fine people because it does not get a high level of political attention.

The Hon. SHAYNE MALLARD: Local government knows all about it. A garbage truck strike reminds everybody.

The CHAIR: We used to say in local government, "You can move a few million from hospital to hospital overnight and no one will say a word, but if you forget to pick up the bins you are in trouble". We will conclude. You have 21 days for questions on notice. Thank you for your evidence. It has been helpful and it is a good inquiry for the time we are at and for the growth of New South Wales. We appreciate your expertise.

(The witnesses withdrew)

TIM JORDAN, Head of research, Clean Energy Finance Corporation, affirmed and examined

HENRY ANNING, Sector lead for bioenergy, Clean Energy Finance Corporation, affirmed and examined

The CHAIR: Do either of you have an opening statement?

Mr JORDAN: The Clean Energy Finance Corporation [CEFC] is a $10 billion Australian Government corporation set up by legislation in 2012. Our role is to facilitate the flow of finance into the clean energy sector. Our mission is to accelerate Australia's transformation to a more competitive economy in a carbon constrained world by acting as a catalyst to increase investment in emissions reduction. We do this through an investment strategy that is focused on two areas: cleaner power solutions, including large and small scale solar, wind, bioenergy, waste from energy; and the better built environment with investments in energy efficiency, vehicles, infrastructure and industry.

The CEFC has made about $3.5 billion of cumulative investment commitments since its inception for about $10 billion of total project value. We are the largest single debt financier of large scale solar in Australia, with more than $370 million across 10 projects for a total generation capacity of 400 megawatts. In New South Wales it has invested $150 million into three large scale solar projects in Dubbo, Parkes and Griffith creating a solar belt in regional New South Wales. We have invested in the Moree solar farm and put $200 million into wind farms in Glen Innes and Wellington: enough to power about 160,000 homes.

The New South Wales Government is targeting net zero carbon emissions by 2050 and the CEFC has invested more than $350 million in finance for large scale renewable projects in the State that are central to reaching that goal. The CEFC is looking to support the development of the bioenergy and energy from waste sector in Australia. It is doing this because the evidence is that energy from waste can play a small but meaningful role in meeting Australia's missions reduction roles. Australia's electricity generation sector today has a very small share of generation from energy from waste, well below the of OECD average. We say that waste can be used to generate renewable electricity, helping to transform Australia's generation mix away from fossil fuel generation.

In addition, plants that generate electricity from waste are capable of providing what is known as firm capacity. It means that capacity is guaranteed to be available at a certain time. In that way energy from waste can complement variable renewable energy such as wind and solar as they increase their market share. Using energy recovery to reduce waste from land fill also helps avoid the release of methane into the atmosphere. Methane is a potent greenhouse gas with a global warming potential of some 25 times that of carbon dioxide.

The CEFC thinks that the New South Wales energy from waste policy statement represents the benchmark for energy recovery projects and strict safeguards should be in place and enforced to ensure that only waste that represents genuine resource recovery should be available for energy from waste projects. We think that energy from waste that uses proven best practice technology can meet community expectations for local emissions as well as helping to meet renewable energy goals. We observed through our investment activity that the economics of energy from waste projects depends heavily on landfill fees. Fees that are set at an appropriate level can help to ensure that value is captured from waste that would otherwise go to landfill. We thank the Committee for the opportunity to appear today and we look forward to the discussion.

The CHAIR: My line of questions will be on levies; others questions will be on other things. You referred to appropriate fees for landfill. Would you call appropriate, say, $10,000 to a local council and receiving only $1 million back in initiatives to be able to deal with diverting waste from landfill?

Mr JORDAN: It is interesting. The Productivity Commission looked at how to set landfill levies back in 2006 in their report on waste management and their view was it is better for gate fees that recover the cost of delivering landfill. They talk about the total environmental and social economic costs being captured by landfill levies. As investors we are not prescribing particular levels of landfill levies or gate fees that we think are appropriate but we note that the economics of projects are very much affected by the level that a government chooses to set them at.

The CHAIR: You are talking about diverting and supporting renewable energies in a small way coming from energy from waste. If that is to be achieved—and it could be achieved across New South Wales to a degree—surely the infrastructure that needs to be built would be coming from that levy into landfill stations. Would it not be right to give that money back to those areas—hypothecate it so they can build these efficient energy stations?

Mr ANNING: The levy can have two impacts on an individual project. One is if there is a grant program available that can make some capital contribution to the upfront cost of the infrastructure, whether it is recycling or energy from waste as such, and also to the actual revenue stream of the project itself over the life. So if you are diverting waste from landfill, that is a component of what you can get paid as the gate fee for your facility. In terms of bioenergy and energy from waste, a lot of the discussion today sounds like it is around the urban waste sector where you are talking about a levy. We also look at the bioenergy sector where you might be dealing with feedstocks that you do not actually get paid to take, such as agricultural feedstocks but they still provide a value resource for energy generation.

The CHAIR: Would you consider it double dipping if an organisation that is trying to meet the initiative you suggest by building an energy from waste station, and that has paid $50 million over five years in levies, receives only $5 million back to subsidise part of the cost of the energy from waste station? Would you not think it is double dipping, given that the ratepayer will have to pay another $45 million to offset the full costs on that development for instance? Is that the spirit of the waste levy?

Mr JORDAN: I think it is open for debate.

The CHAIR: It is.

Mr JORDAN: Economists generally do not like the idea of hypothecating levies—I am an economist by training—in part for practical reasons. It is very hard once you have designed a hypothecation measure to then unwind it if the economics of a particular project change or there is a change of policy priorities. But I understand the appeal of hypothecation to get projects built. Generally the value for an energy from waste project from an adequate level of landfill levy is that it creates a secure waste stream that is looking for an alternative home in an energy from waste project, rather than going to landfill. Revenue from the levy is a separate question from just being able to secure that waste supply.

The CHAIR: Would you be agreeable to the revenue from the levy statewide being hypothecated at least 100 per cent into initiatives that redirect waste from landfill?

Mr ANNING: From my perspective, as someone within the Clean Energy Finance Corporation [CEFC] that focuses on energy from waste and bioenergy, I would like to see that flow back to the industry and help support the industry to achieve the energy from waste and the landfill diversion and the emissions reduction that can be achieved.

The CHAIR: My point is that the ratepayer is paying twice.

The Hon. PENNY SHARPE: Your submission on page 1 talks about $2 billion in the pipeline for additional bioenergy and energy from waste products. Could you provide the Committee with a breakdown of that pipeline State by State, but obviously we are interested in New South Wales?

Mr ANNING: I am happy to take that on notice.

The Hon. PENNY SHARPE: Are you familiar with the current proposal in New South Wales for 1.3 million tonnes per annum—

Mr ANNING: Generally familiar, yes.

The Hon. PENNY SHARPE: When you are looking at opportunities that are currently being lost in New South Wales, is that factored into your figures?

Mr ANNING: We cannot comment on individual projects that are proposed.

The Hon. PENNY SHARPE: Sure, but given it is the only one—

Mr ANNING: The only project in New South Wales?

The Hon. PENNY SHARPE: Yes.

Mr ANNING: I do not believe so. There are a number.

The Hon. PENNY SHARPE: I am aware of the smaller ones, and I am aware of the animal waste. I am particularly interested in that. You cannot tell us but when you are suggesting that this kind of opportunity cost currently is not being fulfilled, what proportion of that energy from waste proposal would you see in New South Wales?

Mr ANNING: Of the $2 billion?

The Hon. PENNY SHARPE: Yes.

Mr ANNING: I am happy to come back with specific figures to show a breakdown.

The Hon. PENNY SHARPE: I am interested in the urban waste proposal that you talk about, 1.3 million tonnes of which is currently proposed to be just construction industry and demolition waste going into such a large facility. Have you looked at whether something of that size would ultimately require municipal waste to feed it?

Mr ANNING: Talking on a general basis, when we look at any investment proposal for a project, we look at the feedstock that is proposed for it, whether it is municipal solid waste, commercial and industrial waste or construction and demolition waste, to use the terminology, and whether that type of technology has been used for that feedstock before; and obviously we look at various contracts around any individual project to support the waste that may be provided.

The Hon. PENNY SHARPE: Do you form a view about needing to know exactly what feedstock is going in before you would give the project a tick?

Mr ANNING: In the process that we go through, one of the components we look at is what percentage of the revenue of a project may be contracted as opposed to merchant—so market exposed. To that extent we need to form a view on the feedstock that may come into a project and what the nature is of the contracts around that. We also undertake typically some third party technical due diligence of any project to get input on the feasibility of what is proposed and the feedstock associated with it.

The Hon. PENNY SHARPE: Separate from planning proposals you would be looking at the State environmental protection agencies as a third party. If they had a problem with projects you would take that seriously?

Mr ANNING: We would on any project. A project needs to be approved for us to invest in it from an approval point of view.

The Hon. PENNY SHARPE: Approved through the planning system as opposed to approved through the EPA?

Mr ANNING: As part of our general investment process. We are required to take a very strong view on best practice environmental, social and governance risk management, which we do on all projects.

The Hon. JOHN GRAHAM: Thank you for your submission. I thought it was fantastic and it really assisted the Committee. I want to ask about the potential investment opportunities you are identifying between urban and regional waste projects. You have given us a range of $2.9 billion to $4.4 billion when you put those together. What you are saying is that for New South Wales this is a billion dollar opportunity at least which is not being taken up at the moment.

Mr ANNING: Off the top of my head I think those numbers are about right. We will come back, obviously, with an actual breakdown.

The Hon. JOHN GRAHAM: It could be higher but even on your low estimate we are probably looking at about a billion dollars?

Mr ANNING: Yes.

The Hon. JOHN GRAHAM: As the market potential in New South Wales?

Mr ANNING: That aligns generally in urban waste to population. New South Wales has a significant proportion of the national population, obviously a lot of waste as well, and it presents an opportunity without even looking at the bioenergy or agricultural waste side of things.

The Hon. JOHN GRAHAM: What is the timing on those? That is not over a period. You are saying these investment opportunities are there and are ready to go, subject to getting approval and subject to some of the financial decisions by these private companies. Are you telling us potentially that that is sitting there right now?

Mr JORDAN: There are a number of ways to assess the potential market size. One is to look at the amount of feedstock available, so you look around the country and identify the available waste streams and what might get built if the appropriate economic policy signals were there to see those built. The other approach is to look at announced projects and try to assess how likely they are to come onstream. We have come at it both ways as we have looked at the waste and bio-energy sector. We have identified a range of projects that are

announced but they will tend to only come to us for finance once they are quite developed. We will be aware of projects that are in the market at an early stage but they will come to us with a firm financing proposal a bit later in the process. With some of our reports and submissions we are attempting to draw attention to this as an area. There is a small element of aspiration in some of the numbers we have put forward, trying to highlight to the market these opportunities and draw attention to the prospects there. They are an estimate based on a number of factors.

The Hon. JOHN GRAHAM: I think they are a very useful estimate. To be clear, they are an estimate not based on cutting corners on emissions; they are based on high standards. I think you said you regard the EPA as the benchmark around the country and that is the policy that has now been adopted here. Even holding to those high standards, you are potentially talking about a billion dollar opportunity for the State.

Mr JORDAN: Yes.

The Hon. JOHN GRAHAM: Can you give us an idea about the sorts of projects? Highlighting the difference between urban and regional is useful, but are there a small number of big projects looking to move or are there a lot of smaller opportunities floating round? Can you give us some more texture as to the sorts of projects that might make up this opportunity for New South Wales?

Mr ANNING: It is a mix. There are some smaller projects and probably more medium-sized projects as well. One of the gaps from my perspective in the New South Wales opportunity pipeline is around the municipal solid waste. I think this goes to the previous presenter's point around the aggregation of waste. In New South Wales where there are smaller councils it is hard to get the critical mass to make a project bankable. Despite having a strong levy regime and a strong regulatory framework, that is a missing piece in the New South Wales market. It can also be challenging in other States, to be honest. You have situations where you might have seven, 10 or 13 councils banding together to aggregate their waste to put to one project.

From an investor's point of view that is good in terms of aggregating the waste. Obviously, it requires due diligence as well in terms of what happens over time. If you are talking about a 20 year contract, what if there are amalgamations and how would that be dealt with in any waste supply agreement? That is getting a bit into the weeds, so to speak. That has been one of the gaps in terms of having a flow of the municipal waste in terms of residual from municipal waste in the New South Wales market. Other than that you may have seen we announced a transaction with ResourceCo in relation to production of process engineered fuel from commercial and industrial waste and construction and demolition waste as an example. Then there is a number of different projects looking at a whole range of different waste streams and processes ranging from a couple of million dollars for an on-farm anaerobic digestion project, for example, up to a few hundred million dollars.

The CHAIR: If everyone was collecting their levies, when the smaller councils came together they would have the money because they had already collected it and they would not to have beg, borrow and steal to get a project together to divert their waste.

Dr MEHREEN FARUQI: In your submission I think you mentioned that the energy from waste improves recycling rates. Could you elaborate on what that is based on?

Mr ANNING: I am not sure if the wording was exactly that it improves it but I think from the evidence I have seen the point is that they are not necessarily mutually exclusive. There is evidence—and there are more technical people presenting to the Committee than me to perhaps elaborate on the point—that recycling and energy from waste can coexist and that some of the countries that have the highest recycling rates also have the highest energy from waste rates.

Dr MEHREEN FARUQI: I guess coexistence is different from improving recycling rates. I would say that most of those countries have good recycling rates because they have really good policies such as extended producer responsibility, for instance.

Mr JORDAN: I think that is right. We would not say there is a causal link between higher energy from waste and recycling, but countries that do both well tend to have high rates of both.

Dr MEHREEN FARUQI: I just wanted to clarify that. Have you been approached to fund the incinerator in Eastern Creek?

Mr ANNING: I am afraid we cannot comment on individual project discussions.

Mr JORDAN: We have extensive commercial-in-confidence obligations to all the counterparties that we deal with and revealing any discussion with one might reveal information to other parties, so we are not in a position to discuss that.

Dr MEHREEN FARUQI: Could you rule out providing funding from the corporation if a proposal was not supported by, let us say, the New South Wales Environment Protection Authority?

The Hon. SHAYNE MALLARD: It would not go ahead.

Dr MEHREEN FARUQI: Not necessarily.

Mr ANNING: If a project is not approved?

Dr MEHREEN FARUQI: No, if it was not supported by the New South Wales EPA?

Mr ANNING: If a project is not approved, clearly we cannot get involved and we would not as any investor. In terms of our processes, as I mentioned, we have a responsibility to look for best practice environmental, social and governance risk management. That includes taking into account the views of all key stakeholders. Clearly, the EPA are a very important stakeholder when it comes to an energy from waste facility, as well as community groups and the like, as part of any project. A component of that is reputational from ourselves. Like other investors, we have a reputation we would wish to protect. Another component is in terms of the investment risk associated with a project. If you invest in a project that does not have a social licence you are taking a higher level of investment risk.

Dr MEHREEN FARUQI: On page 2 of your submission you say that energy from waste technology can avoid fuel combustion for electricity generation while providing a clean source of renewable energy. Do you not think it is a little bit problematic to classify energy from waste as renewable energy, given especially that waste comes from very non-renewable sources? Do you think that is a bit of a problem?

Mr ANNING: My main comment there would be that CEFC does not set the policy in terms of what is or is not renewable. We look to the likes of the Renewable Energy Target and the definitions within that in terms of determining whether something is renewable energy. In order to be eligible for CEFC investment projects need to either be renewable energy, energy efficient or low emission technology. We rely on an evidence base and third party verification of what is deemed to be renewable or not.

Dr MEHREEN FARUQI: Would you look at definitions from the Australian Renewable Energy Agency [ARENA] and places like that as to how they classify renewable energy?

Mr ANNING: We do. We work very closely with ARENA and I think we both to some extent look to the Renewable Energy Target as a reference in that process.

Dr MEHREEN FARUQI: Waste does not fit into their definition. My concern is that if CEFC loans money to facilities which produce energy and are much less efficient and more polluting than solar, wind or hydro that is one dollar less going to those more efficient and more clean energy sources and one more going to one which is less efficient. When you get proposals or fund proposals would you do a comparison on better alternatives, or do you have fixed money to give to each proposal?

Mr ANNING: We look at each investment opportunity on its merits. Our view is that there needs to be a diverse range of generation within the electricity network. As Mr Jordan mentioned in the opening statement, one opportunity from bio-energy and energy from waste is to provide that firm, renewable energy to support a greater deployment of wind and solar. One hundred per cent wind and solar without any other support is very challenging.

Dr MEHREEN FARUQI: Do you differentiate between bio-energy and energy from waste at all?

Mr ANNING: We do in terms of looking at each individual project because they will typically be one or the other. Some may have some sort of combined feedstock characteristics. As I mentioned, in terms of the financial model or business model for the projects they can be different. In one you might get paid to take your feedstock, in another you may be paying or it may be free to take the feedstock. Each individual project is assessed on its merits.

Mr JORDAN: Our experience has been primarily to date in anaerobic digestion projects, in what we would call the bio-energy sector, but we will consider any project that fits our eligibility criteria. To your earlier question about whether we would invest a dollar less in another project, our available capital is $10 billion and we are only $3.5 billion in commitments into that.

We are not constrained on that front from investing in new projects. We have had a large number of new solar projects come through the pipeline recently. As we said in the opening statement, it is a small but meaningful role that we think energy from waste can play in the decarbonisation transition. We would not put it any higher than that. It is unlikely to be a 10 per cent share of the Australian generation mix. However, we think

it has an important role to play, especially in its capacity to provide firm generation that can nicely complement variable renewable energy.

Dr MEHREEN FARUQI: If we go to zero waste then there is no firm component from waste to energy.

The Hon. LOU AMATO: Of all the technology available at the moment, what produces the cheapest electricity?

Mr ANNING: All renewables or energy from waste technology.

The CHAIR: I think the member is referring to across the board. Where does it fit on the scale?

Mr ANNING: It is an interesting question. On a straight levelised cost of energy [LCOE] basis in terms of the cost per megawatt hour produced by a particular technology over its life, wind and solar tend to be lower cost than energy from waste and bioenergy, but recognising they are providing a different service to the grid. Energy from waste and bioenergy at capacity utilisation or hours of the year generation of 80 per cent, 85 per cent, or 90 per cent is more properly compared to solar and battery, wind and battery or pumped hydro, for example, within the renewable categories.

The CHAIR: I have heard that it takes just as much energy to create solar panels. Is that calculation taken into consideration when we are talking about the full life of a product and what energy it can provide?

Mr JORDAN: Not in a levelised cost of electricity calculation; it simply takes the overnight capital cost of delivered electricity and financing costs.

The CHAIR: But not the manufacturing costs?

Mr JORDAN: It is an important point. The embodied energy in wind and solar plants is very quickly swamped by the lifetime generation of these plants. It is often recovered within the first year or two of generation from these projects.

The CHAIR: Questions are often asked about the full cycle. How much energy does it take to create it as well as what it can generate in a lifetime? Do you have measurements?

Mr JORDAN: It is in the order of one to two years, or less for some projects.

The CHAIR: It is good to have an answer from an expert.

The Hon. SHAYNE MALLARD: We hear plenty from *Daily Telegraph* journalists. I want to explore point 2.2 in your submission, which deals with the capability of energy from waste technology to reinforce the renewables—wind and solar. You referred to "firm electricity generation". Is that what we call baseload power? When we have problems with energy supply from solar or wind, we have to bring in coal or gas as a backup.

Mr JORDAN: Historically the distinction was between baseload and peaking plants. Traditionally, coal would run as baseload at much the same time as generation output the whole time, subject to outages. Gas generation would run as a peaker to cope with changes in electricity demand. As we add more renewables to the mix, the story gets more complicated. It is up to the Australian Electricity Market Operator to manage a generation fleet that has elements of baseload and quite predictable generation output from solar where we know the daily output is consistent, and then intermittent sources such as wind where there are some regularities in the generation profile, but it can differ quite a bit. We have visibility a week ahead on what a wind farm will generate, but not beyond that.

"Firm" refers to the capacity of the generator to guarantee that it will deliver when it says it will. A wind farm can be quite certain within seven days, but not beyond that. A gas generator knows in advance because it has a gas supply contract, and a coal generator certainly knows when it can generate because it probably has a coalmine, or at least a firm coal supply contract. Because the feedstock is on site, we can describe energy from waste as a firm generation source because it can guarantee that it will be able to deliver what it says it will generate.

The Hon. SHAYNE MALLARD: I understand the concept now. You said that you envisage 10 per cent of the energy mix coming from this source.

Mr JORDAN: No, I said that it would not be that high. OECD levels are about 3 per cent from bioenergy and energy from waste, including heat. The evidence in Europe is that heat is a big role for waste to energy and bioenergy.

The Hon. SHAYNE MALLARD: I have a question that is tangential. Obviously energy is the topic of the moment in this country and this State. What about the decentralisation of energy? I have been involved in trigeneration projects in the city. Are solar arrays and batteries the next wave? As the price comes down dramatically, and there is talk about regulations, will batteries be part of the mix in achieving a more reliable and sustainable energy grid?

Mr JORDAN: We think so. There is a strong role for batteries in helping to manage variable renewables as they increase in penetration. The economics of household level batteries is improving, and people being interested in becoming independent from the grid would be a major driver of small-scale battery uptake. The South Australian Government is in the middle of a large procurement exercise for 100 megawatts of new battery capacity, which will be the largest battery installation in the world.

The Hon. SHAYNE MALLARD: To role out to government buildings or to residential?

Mr JORDAN: No, as a utility-scale acquisition to help—

The Hon. SHAYNE MALLARD: Avoiding what happened?

Mr JORDAN: Yes. South Australia is at the end of an electricity network and it has special challenges in managing its systems. It wants 100 megawatts of what will effectively be backup capacity using batteries. The Victorian Government is also in the middle of a procurement. Pumped hydro is another big technology that we think will play an important role. There is some pumped hydro in the system already, but we think increasing levels of pumped hydro would be helpful.

The Hon. SHAYNE MALLARD: Your submission states that the coal-fired Mount Piper power station near Lithgow is converting one of its purpose-built boilers into a burnable waste facility. Is that forestry waste?

Mr ANNING: A feasibility study has been commenced. This also goes to the question of the Australian Renewable Energy Agency [ARENA]. ARENA is part funding a feasibility study for EnergyAustralia looking into using refuse-derived fuel [RDF] effectively to produce renewable heat to feed-in—

The Hon. SHAYNE MALLARD: Is that forestry waste?

Mr ANNING: No. Refuse-derived fuel is made from urban waste, for example, municipal solid waste.

The Hon. SHAYNE MALLARD: Again, it is from the end of the recycling process and it cannot be recovered.

Mr ANNING: Correct. They are starting a feasibility study. It depends on how long that process takes.

The CHAIR: I assume that you have read the terms of reference. Do you have any suggestions about what the Committee should recommend?

Mr ANNING: I refer to the comment I made earlier in relation to the aggregation of municipal solid waste in particular. That is a material barrier at the moment in the New South Wales market; that is, viable projects using proven technology being bankable. As a general point, the Clean Energy Finance Corporation's view is that there is a significant opportunity on a range of fronts—economic, social and environmental—from increased resource recovery and emissions reductions, and energy from waste and recycling is part of that process. Much of the time that involves taking proven technologies from overseas and deploying them in the Australian markets. These are technologies with a 10-, 20- or 30-year track record. We think that is a significant investment opportunity. It can also make a small but meaningful contribution to the grid from an electricity point of view, and also taking the waste out of the landfill from a methane perspective.

The CHAIR: You talked about playing a small part in the process. Do you know what percentage it could play in terms of a renewable-energy solution?

Mr JORDAN: In terms of the OECD average—

The CHAIR: Is there some modelling?

Dr MEHREEN FARUQI: It is not renewable energy.

Mr JORDAN: We compare Australia's level of penetration with the OECD level, and note that we are significantly below that. The OECD average is about 2.9 per cent of total energy from waste and bioenergy. The Australian figure is significantly below that. There is certainly room to grow.

The CHAIR: Dr Faruqi commented that it is not renewable energy. Can you define it? Is it renewable energy?

The Hon. SHAYNE MALLARD: That is an ideological viewpoint.

Dr MEHREEN FARUQI: No, it is not.

The CHAIR: In your organisation's view, is it classed as renewable energy?

Mr ANNING: I guess we looked at the definitions in the renewable energy target in terms of projects and whether the waste stream that they have is deemed to be renewable and what percentage of that waste stream might be deemed to be renewable. That is our primary reference point.

The CHAIR: Thank you for clarifying.

Dr MEHREEN FARUQI: Mr Chair, with your indulgence—it will take two seconds—could I just read out the Australian Renewable Energy Agency [ARENA] definition of what renewable energy is?

The CHAIR: We were not after your definition; we were after the witnesses' definition.

Dr MEHREEN FARUQI: They relate to ARENA.

Mr ANNING: ARENA did co-fund that feasibility study using refuse derived fuel [RDF]. That is perhaps a question to ask.

The CHAIR: Thank you for that clarification.

Dr MEHREEN FARUQI: Contravening their own definition.

The Hon. LOU AMATO: I have one last question. What impact will the cost of renewable energy have on Australian industry and manufacturing and its competitiveness in the world market?

Mr JORDAN: The main channel for affecting the competitiveness of industry from changes in the electricity system is the electricity price that industry faces. The most recent evidence we have on this is from the modelling done for the Finkel review which was released a few weeks ago. Jacobs, one of the modelling houses, looked at three different scenarios for electricity policy. One was business as usual, one was an emissions intensity scheme and one was a clean energy target. Business as usual means no changes to Commonwealth electricity policy after 2020, so the renewable energy target would just run in a straight line. There would be no more Commonwealth policies driving renewable energy. It also modelled an emission intensity target and a clean energy target.

The surprising outcome was that under each of those scenarios the retail price faced by industry for electricity was pretty constant. It was within quite a small range. I do not have the numbers in front of me. I guess it is surprising because business as usual involves quite a lot of uncertainty in the electricity market. So if there was no more policy at the Federal level, that would not remove the expectation from the market that policies would change again down the track, and that gets immediately factored into the cost of new investments. So investment would continue. It probably would not be the optimal investment. Electricity prices would rise even in the absence of new policies.

The Hon. LOU AMATO: That is what I mean. At the end of the day, somebody has to pay for it.

Mr JORDAN: They do.

The Hon. LOU AMATO: Investing in renewable energy, which is a great thing—I must admit that—can also come at the cost of Australian industry.

Mr ANNING: One of the lost opportunities for Australian industry at the moment is actually renewable heat. The renewable energy target is obviously electricity and there have been a number of schemes internationally that also recognise renewable heat, because obviously in the manufacturing industry there is a lot of process heat. Bioenergy and energy from waste can make a material contribution to that. You can see some of it in the sugar industry in terms of the gas where they burn it in cogeneration and use the heat—

The Hon. LOU AMATO: That is right. There are some industries that are reusing their waste to generate electricity and heat and so forth.

Mr ANNING: Yes, but particularly using the heat component is actually another lost opportunity that we are trying to help unlock in the Australian market.

The CHAIR: They should do that at Parliament. There is a lot of hot air here that could be used.

The Hon. JOHN GRAHAM: I think you have already agreed to give us a bit of a State breakdown of the $2 billion pipeline, which will be fantastic. When you do that, could you also provide a State breakdown of your existing commitments—the money already allocated in the sector of the $200 million you have put in or the $700 million in total—so we have an idea of how New South Wales stacks up?

Mr JORDAN: Certainly.

Dr MEHREEN FARUQI: Mr Chair, could I ask a quick question? It will not be about renewable energy.

The CHAIR: Feel free then.

Dr MEHREEN FARUQI: Did the CEFC have any role in the Port Hedland waste to energy plant? Just out of interest, was there any funding from CEFC into that?

Mr ANNING: We made a debt commitment to that project a number of years ago. It was conditional on a number of items which have not yet been satisfied. That project has not reached financial close and commenced construction.

Dr MEHREEN FARUQI: I am aware of a number of waste to energy plants within an industry. That is fantastic, because it is a closed loop process. It works really well. Are you aware of any others in Australia—other than the Port Hedland one—which use municipal waste?

Mr ANNING: In terms of municipal waste the main one that comes to mind is the ResourceCo process engineered fuel plant in Adelaide which is a Suez resource joint venture. I think Suez are presenting to the Committee this afternoon. They take commercial, industrial and construction and demolition waste and put it through a process to capture the residuals. The residuals are provided to Adelaide Brighton Cement for the cement kiln in Adelaide and replace approximately 25 per cent of the cement kiln's natural gas use. It is a good economic outcome for both parties and a good environmental and social outcome as well.

Dr MEHREEN FARUQI: We will ask them more about that. Thank you.

The CHAIR: Thank you for that, gentlemen. Thank you for your expertise. It was really helpful. If you have taken any questions on notice, you have 21 days to respond to them. The secretariat can assist you with that process. We may have some further questions arising from your evidence. We are going to adjourn for lunch, so just make sure you are recycling your lunch scraps. Thank you very much.

Mr ANNING: Thank you.

Mr JORDAN: Thank you, Chair.

(The witnesses withdrew)

(Luncheon adjournment)

GRANT MUSGROVE, Chief Executive Officer, Australian Council of Recycling, affirmed and examined

The CHAIR: Would you like to make a short opening statement?

Mr MUSGROVE: I am assuming that the Committee has read our submission. The Australian Council of Recycling [ACOR] is the peak industry body for the resource recovery and recycling industry. It comprises everyone from Visy to Veolia, some of Australia's largest private companies as well as international companies, and some local councils in New South Wales have skin in the game in the recycling industry. I come to this hearing somewhat reluctantly. Industry is terribly concerned that energy from waste in this State is going to be the subject of ongoing nimby politics and we would really like the assistance of this Committee and other processes within government in dealing with the core issue, which is getting the social licence to operate these things. The only alternative is landfill. There is a whole range of technical specifications, which I am sure the Committee would have been in receipt of, around the world.

The current policy was released by Minister Stokes when he was the environment Minister. The press release had my name on it by way of endorsement. So for those who are concerned about recyclables getting incinerated, that was a threshold for us to get on board with government with that policy. We support the policy. It is not perfect, and we did not agree with all of it, but the Government was very open to sharing the pen, if I can use the expression, and giving us a good negotiated settlement. From an industry's point of view, as supplementary to the submission, it is that social licence to operate because sooner or later we are going to have some pretty small but probably a portfolio of energy from waste [EfW] projects around Sydney because there is nowhere to put landfill at all. That is a much inferior policy outcome than energy from waste. It is not ideal; it is not the best outcome environmentally, economically or socially. Unfortunately, until we get it away from the linear waste economy we do not really have any other options from a policy perspective.

Dr MEHREEN FARUQI: When we talk about waste to energy, most people pitch it against the alternative of landfill but there are still things in between that need to be done in New South Wales and across Australia. One particular initiative mentioned in your submission is extended producer responsibility. How do you see that being adopted by New South Wales or what should be done to make sure that we do move towards those sorts of higher order waste hierarchy initiatives?

Mr MUSGROVE: Extended Producer Responsibility [EPR] in Australia is principally governed by a Commonwealth Act, which is currently under review: the Product Stewardship Act. It has a range of schemes, everything from e-waste to waste tyres, and a whole bunch of things in between. All of those schemes, other than e-waste, are voluntary. To put it mildly—and I will be having this conversation in due course with Minister Frydenberg—none of the schemes are working because of their voluntary nature. It is almost like voluntary taxation, why would you do it? Quite frankly, the Commonwealth is asleep at the wheel. From a State perspective, it is possible for the State to set-up EPR regimes—one coming forward soon is the container deposit scheme [CDS].

That is one form of EPR. So the Commonwealth is not doing anything helpful, the State is doing some things helpful. When the CDS is introduced, over time that will have an entire level of infrastructure built around it and that maybe very useful in subjecting other materials to EPR—think something like e-waste. Why should you not pay a few dollars extra for a laptop or something and be able to get a refund when you take it back to the store? We can then process it. A lot more could be done at the Commonwealth level and in time—but I would say the time is not quite ready yet in terms of the infrastructure—post CDS, a couple of years down the road we can look at other material streams.

Dr MEHREEN FARUQI: On page 5 of your submission it is stated:

> Finally, where EPR has been introduced into countries where EfW is the disposal option for residual waste, such as in Japan, subsequent reductions in residual waster generation as a result of recycling through EPR has resulted in reductions of available waste to incinerate, leading Councils to adjust their recycling systems, collecting less, to ensure sufficient waste is available to feed the EfW plants.

Can you elaborate a little bit on that and also the risks to councils to adjust waste and the possible reduction of recycling?

Mr MUSGROVE: It is not just Japan, that was just one example. This is a problem in many countries in Europe where they jumped in postwar and built a whole range of EfW systems, which now means their energy system is dependent on—the industry is called "we have got to feed the beast"—generating waste and burning it. It is a very large business in Europe, even waste from the United Kingdom gets exported across, and rumours have been happening in Australia but I do not have evidence of that. If you make your energy system

dependent on waste generation then you must generate more waste, which is a waste of valuable, finite resources that would otherwise have a commercial value in the market, or many of them would. That is a major risk or a challenge. It can be dealt with, but you just do not make your energy system dependent. I think in our submission our estimate is that one day New South Wales might have three to six per cent, that is manageable; if some European countries, do not have enough waste, they do not have electricity.

Dr MEHREEN FARUQI: Obviously you are aware of the current proposal to build a 1.34 million tonne per annum waste-to-energy facility in Eastern Creek. Nowhere in the world does any country have such a big facility. Is there a risk, as you say, of feeding the beast and taking material which otherwise is recoverable?

Mr MUSGROVE: The proponents of that project are Australian Council of Recycling [ACOR] members. They also own a very substantial recycling facility. It is not appropriate for me—a number of ACOR members are direct commercial competitors—to make a comment on the suitability or otherwise of a particular facility. I am sure you will have companies coming in front of you later today which can speak from a company perspective.

Dr MEHREEN FARUQI: That is fine. I have a more general question about waste to energy. If New South Wales starts building waste-to-energy facilities now do you think there is a chance that we will be dragged down lower in the waste hierarchy and do not ever consider those other high-value recovery systems?

Mr MUSGROVE: If it aligns with the current policy I do not see it as a risk at all. I do not think New South Wales has a choice, to be honest, until the structure of the linear economy is fundamentally changed. That is something which all developed countries are struggling with.

Dr MEHREEN FARUQI: What would be your recommendation to the Committee if you have any, regarding waste to energy?

Mr MUSGROVE: With all due respect to everyone, leave it to the experts. There are experts in the EPA. We have had a close working relationship with the EPA over a long time. It is a complex relationship because it is our regulator. It can—and does—fine our members for breaches which are almost always inadvertent. Stuff just happens. Leave it to the experts. We have to take the politics out of this or the community is not going to have a sustainable waste management system. I come back to the nimby issue so often. It is very attractive for politicians; I understand that. If there is local outrage when an election is coming, and maybe there are some seats in play, it would be very hard to ask politicians not to behave like politicians.

Dr MEHREEN FARUQI: Would you agree, though, that it should be best available technology, should not increase the risk of harm to the community or the environment, and should be accepted by the community—should have that social licence?

Mr MUSGROVE: Getting the social licence to operate is everything. I think you have captured that really well.

Dr MEHREEN FARUQI: Thank you.

The CHAIR: Could you define the words "social licence to operate". We have heard that a couple of times today.

Mr MUSGROVE: Getting community acceptance of a project. That can be anything, but usually it applies to essential services. Take a recycling facility; everybody—or the overwhelming majority of the community—supports recycling but you do not want to have one of our plants in their backyards. There are odours, and they are chemically dangerous to human health and the environment, but they are essential services. There is a big land squeeze here. Badgerys Creek is squeezing out western Sydney, where a lot of our members have very large facilities, and that is where new facilities could be built.

Victoria is probably leading the way on this—sorry to point that out—because they have citizen juries. You might have seen one that did not work very well in the nuclear debate in South Australia, where they had a citizen jury process. That went against a nuclear dump in South Australia but in Victoria, Sustainability Victoria is quite good at rounding up the community and giving them the problem. That is how to do it. Traditionally, governments like to make decisions—that is natural; people are elected by the community—but the community is not as stupid as people think. You can take all the politics out of this by sitting down with the community and explaining the problems we face, the real options and the zero-sum game that hard choices often are. It lets odd local members off the hook with respect to tough things in their electorates, as well.

The Hon. PENNY SHARPE: Thank you for your submission. You made some comments about asbestos. As we know, we have a terrible problem of illegal asbestos dumping. You recommend that it is

properly disposed to landfill. Do you have any other suggestions from you or your members about dealing with this, as it is ongoing?

Mr MUSGROVE: This is a terrible, terrible problem. It is terrible for our industry and it is terrible for our employees, for a start, because of where asbestos ends up, even if it is properly disposed of. It goes through our sites. There are various ways. You can comingle it and whatever. Our workers are the most likely victims in the entire community to suffer from the negative effects. To come to the policy question, I reiterate what is in our submission. There is currently a financial incentive to illegally dump asbestos. With all the waste tracking and the best endeavours of the EPA, while asbestos is subject to a levy I think people will seek to avoid it.

Dr MEHREEN FARUQI: I know that your industry—the companies that you represent and others—have made approaches to Government to speak about that. Do you feel you are getting any traction around the asbestos issue?

Mr MUSGROVE: I am yet to discuss it with the new Minister, because she has a few other things on her plate at the moment. Government is acutely aware and it is a live debate. I would not say that we are getting traction or not. It is a discussion—an ongoing conversation. We have our view, which you have in writing. I will leave it there.

The Hon. PENNY SHARPE: In your submission on page 5—in your final paragraph, you talk about the legislative drivers needed to be introduced to get waste out of landfill into recycling before the introduction of energy from waste. Do you want to talk us through what else you think needs to be there beyond the container deposit and waste levies that currently exist? What are we missing in New South Wales that would drive up recycling rates?

Mr MUSGROVE: A review of the levy system would be helpful, but it is a big job and I am mindful of the resources available to Government at the moment with the introduction of a container deposit scheme [CDS]. We have residuals of recycling—cardboard, cars, anything. They are technologically and commercially non-viable. They are too materially complex. Government has listened to us and given us a 50 per cent reduction in the landfill levy applied to shredder floc, which is what is left over after you shred a car. We welcomed that with open arms. That was a collaborative effort following our advocacy. There is the potential for that to be applied, theoretically, across other material streams, but that involves a root-and-branch review of the levy system. That is a huge job that would take some years. There would also be some pretty serious IT investment, et cetera, as the industry is currently being transformed by technology, like many other industries.

The Hon. PENNY SHARPE: In relation to the review of the federal Product Stewardship Act, can you tell us what the time frame is?

Mr MUSGROVE: It has started.

The Hon. PENNY SHARPE: Which Minister has carriage of it. Is it Minister Frydenberg?

Mr MUSGROVE: Yes. It has started. I have written to Minister Frydenberg outlining a whole range of concerns because we have things like Australian tyres and e-waste turning up in third-world countries being dealt with by children.

The Hon. PENNY SHARPE: I have met some members of Parliament from Africa who have that problem every day—people playing on the tip and kids dying.

Mr MUSGROVE: Yes, and they are Australian. Without giving Minister Frydenberg the opportunity to respond—because I only spoke to him last week, I think, I do not know what his answer is yet—we have urged him to take it extremely seriously. The Act itself and the schemes under the Act are not working as they were intended because it is a badly drafted Act.

The Hon. PENNY SHARPE: And the world has changed since then.

Mr MUSGROVE: Yes, everyone is equally dissatisfied with the Act, I think, but not in a good way. No-one says nice word about that Act. Not even the waste generators say nice words about that Act.

The Hon. PENNY SHARPE: You have mentioned several times in your evidence your concerns about the nimby issue, with no-one liking waste facilities near them. I think we all accept that, politicians included. Without talking about specific proposals, surely proposals that come forward should have the support of our EPA, given that we have had a lot of evidence today that companies rely upon the EPA's judgement in relation to whether it is safe and environmentally sound? Do you accept that that is a reasonable position?

Mr MUSGROVE: Yes.

The Hon. JOHN GRAHAM: I have a question about extended producer responsibility. Your submission is really clear that Australia falls away behind other comparable countries in this respect, which is a lost opportunity. Please tell us about this lost opportunity.

Mr MUSGROVE: The amount of valuable resources that are lost to the economy we estimated at approximately $10 billion per annum. Australia is really doing rather poorly. We are one of the highest waste generators in the world per capita, coming towards three kilograms per person per day and that is growing by about 6 per cent per annum over the long run. We are also one of the richest countries in the world, and so you would think we could manage to have one of the highest recycling rates, given we are generating the most waste. A view, although it is a little out of date, is that we currently rank thirteenth, and I think there is some new data that will put us further down at about sixteenth in the world in terms of our recycling rate, yet we are rich and generating the most waste per person. We have a long way to go.

The Hon. JOHN GRAHAM: Do you believe that one of the ways to tackle that problem is by bringing producers into the economic cycle? Would this put a dynamic into the system that might improve the recycling rate?

Mr MUSGROVE: Yes, producers and politicians do not like getting caught between waste generators and the community. Producers just like to produce something, no matter what it is, which often has no solution or they take no responsibility for its end of life or recycling, ideally, and return to the economy. They do not want to pay any liability for that, which I understand because they are running a business. But as a matter of policy, in all Australian jurisdictions, State and capital, we are just miles behind the people we would like to think of as our peers around the world.

The Hon. JOHN GRAHAM: You have helpfully spelt out some areas where it might be applied, so obviously this principle could be applied across the economy or just to specific and particularly problematic products. Please give us an idea of the particularly problematic products. Which of these might be easiest to regulate? We are balancing between how much harm they cause and how easy it might be to draw up a scheme to regulate these, such as looking at schemes along the lines of the container deposit levy.

Mr MUSGROVE: I reiterate my representations to the Commonwealth, and that is that the Commonwealth has a corporations power. It can do is at once, by and large, in this space yet the buck is being passed to the States by Commonwealth inaction, effectively. The Commonwealth has the corporations power and it is dead easy. From the point of view of the States, they have constitutional responsibility of the land. The way industry has evolved means it has been left to the States, because of inactivity by the Commonwealth. In the industry we talk about how we are trying to build a national approach from the ground up—that is, principally from the States up. As an example, there is a forthcoming meeting of environment Ministers and we will be active around that process. Getting the States and the Commonwealth to agree on a joint strategy in this country is something that industry is waiting for with baited breath.

The CHAIR: On the second page of your submission, you say that the waste levy aims to reduce the amount of waste in landfill and the next point is that the waste levy should be set at a level and applied in a way that embeds financial or commercial incentives for consumers and those disposing of end-of-life products. Is there an incentive for consumers, who pay 40 per cent of their waste levy, only seeing perhaps 10 per cent come back in the form of government grants for other initiatives?

Mr MUSGROVE: Taking the container deposit scheme as an example, consumers ultimately pay for the scheme but they can also get a refund for containers they return. Using that model, you can apply it to anything. I am not sure that we should be giving waste levy funds to consumers, although you could argue that they are getting funds because of funding that is not expended on the delivery of the essential service via Waste Less, Recycle More, the New South Wales Government's key strategy. To the extent that consumers are also taxpayers, having that levy revenue given to consumers does not fit with the way the levy is currently configured.

The CHAIR: Then do not take it from them at the beginning.

Mr MUSGROVE: If you are talking about the desirability of landfill levies, landfill levies are neither good nor bad. It depends how they are designed, and the design space is really very complex, so you would need a whole new inquiry to go into it.

The CHAIR: No, we are going to do it in this inquiry because it is part of the terms of reference.

Mr MUSGROVE: Alright, I will make it quick. In an ideal world, from the perspective of industry which delivers a service, we would not pay a landfill levy on unavoidable residues from recycling. If you did not have a levy, I do not know what New South Wales would do. Landfill would fill up very quickly.

The CHAIR: I understand. Are you of the view that the spirit of a landfill levy was to increase diversion from landfill and not to give that levy back to the local governments to provide other opportunities to divert waste, like hypothecation of 100 per cent for noted infrastructure? It cannot be wasted, but do you think hypothecation of that levy would help more councils to divert waste from landfill? At the moment there is double dipping—for instance, a council puts up a project where the Government has already collected a 40 per cent waste tax from the local community yet the council uses the ratepayers' money to match funding from that grant to build a facility that can divert waste from landfill.

Mr MUSGROVE: By and large it is the private sector that delivers the services, not councils. There is one company that about 80 per cent of kerbside in the country, and you know its name. Councils generally—and there are exceptions—just put out an expression of interest [EOI] or a request for proposal [RFP], and the frustration from industry's point of view is that they might have nine or 10 criteria, one of which is cost, but it always just goes to the lowest cost and not necessarily to the best outcome. That leads to competitive undercutting of services that councils put out to tender. If those contracts do not have enough specificity in terms of the outcomes councils are seeking to achieve—for example, recycling—then I am saying there are good contracts and bad contracts.

The CHAIR: Earlier evidence is that probably there is not enough infrastructure across New South Wales to divert more waste from landfill as there probably could be if there was a proper strategy in place and that some of those waste levies should be going into a major fund to ensure that future need is met?

Mr MUSGROVE: There is always the opportunity to do more, but, in fairness, the Waste Less, Recycle More, both mark 1 and mark 2, are game changing, once-in-a-generation investments of a magnitude which is not enjoyed by either councils or industry in other jurisdictions. We are talking around about $100 million bucks over eight years. Would we like to see more of it? Absolutely. But, at the same time, we are mindful that that is the strongest level of activity in Australia, so we are reluctant to criticise it.

The Hon. SHAYNE MALLARD: I just wanted to clarify that your organisation sees energy from waste as a legitimate component of the story of recycling. Obviously, there is an element with current technology that cannot be recycled, although you do not know what the future holds, and this is a much better way than digging in the ground of capturing the trapped energy. Do you see it as legitimate, part of that?

Mr MUSGROVE: Absolutely, and I would also draw your attention to one alternative for some material streams, and there is a plant being constructed by one of our members now, which goes unnoticed, is energy for fuel. We have companies that specifically turn residual streams, which might otherwise go for landfill, into fuel. Once again, that is not the best outcome but it is what we can do with it. Things with high calorific value, like tyres, can be turned into pallets, and we currently export those around the world for things like cement kilns and so on. So energy for fuel, in my mind, is something which people in this debate just miss it completely, when it sits right alongside EfW in a policy framework.

The Hon. SHAYNE MALLARD: I share a bit of concern expressed by Dr Faruqi in regard to your comments around Japan, that there was pressure to reduce the recycling to provide material for their energy from waste. Do you have evidence of that? Is there a report that we can look at? Take that on notice if you like, but just so that we have not just your comments about it but we have a reference, because that is a concern.

Mr MUSGROVE: Yes, it is a big concern internationally.

The Hon. SHAYNE MALLARD: We had the EPA here this morning and a target for 2021 of 70 per cent commercial is eventual and they are well on the way. It contradicts the levy issue because of the fact that they are achieving it. I do not know how far we can go—I guess 99 per cent or 100 per cent is maybe what we want.

Mr MUSGROVE: If we want a sustainable society one day we are going to have to; nature does not do waste.

The Hon. SHAYNE MALLARD: There is a percentage that we are talking about that cannot be recycled today that might be able to be recycled in 10 years time and potentially mined back out of the ground. We do not want to undermine those objectives of recycling we are having.

Mr MUSGROVE: That is right. There is a tension there but it just depends on what thresholds you set, and there is genuinely a residual stream with the appropriate regulatory framework around it, and it will not cannibalise recycling.

The Hon. SHAYNE MALLARD: In regard to social licence, you were not here earlier but you might like to read the evidence from New Energy—it certainly had a good grip on that. Is it a member of your organisation?

Mr MUSGROVE: Actually they are not. I might make a note of that.

The Hon. SHAYNE MALLARD: It certainly seemed to understand social licence and engagement with community. I am fully on board with the nimby issue—I have been a politician for 12, 13 years with local government and here. If you can get away from the pack and sit down with some people and talk about the options, then you get to have a calm discussion around what is going on. But the reality is that it has got to be accepted by the community.

Mr MUSGROVE: It comes to the policy process, it comes to aesthetics—

The Hon. SHAYNE MALLARD: And leadership.

Mr MUSGROVE: And leadership. Certainly when you walk around some of the great cities of Europe you would not even know you were walking past energy from waste plants.

The Hon. SHAYNE MALLARD: And it comes to the industry as well, like they have to have high standards and—

Mr MUSGROVE: Absolutely. We support strong regulation and strong enforcement so we have a level playing field to compete against each other. That is the point.

Dr MEHREEN FARUQI: You said earlier that Australia is one of the highest per capita producers of waste. Given your experience in waste management, could you highlight what we could do in terms of waste avoidance and reuse? We talk about recycling a lot but the first two tiers of the hierarchy are waste avoidance and reuse. What more could be done to improve that?

Mr MUSGROVE: It can be done. People shrug their shoulders—and I should say we are at the end of the pipe, so these are, for the point of clarity, almost personal views. In the advanced western European economies—I will tell you a story. I was over in Germany at a German-Australian Chamber of Commerce function. I was doing a presentation on our industry and I put up the graphics which showed our rate of waste generation, and there was a funny feeling around the room—it went quiet—and I said, informally I broke out and just said, "So, how are you guys going?" Four hundred grams per person per day rather than three kilograms.

So there is a lot that could be done, but they do have a culture, and the EU waste directive just mandates outcomes in a way that the level of regulation that is not, or so far, has not been applied to Australia. They just do, "No, we're not doing landfill. No, you're going to recover 95 per cent of this", and that is the law. It is a high regulatory burden, or a heavy-handed approach. But when you do not have resources, they are finite, you have to import them; you have run out of land, then do you actually agree to the waste directives, which I encourage you to look at? It is almost a miracle that everyone signed up, but they did.

Dr MEHREEN FARUQI: That is why, as I understand, especially in Europe with the extended producer responsibility kind of policy, that it not only improves recycling but it helps to reduce as well because when producers are responsible for the end-of-life cycle they do start producing less waste as well and less toxic waste.

Mr MUSGROVE: Australia's most successful private businessman does not use the words but his fortune was made using a circular economy approach. The reason one company runs 80 per cent of kerbside in Australia is not for fun; they do it to get their own feedstock back. So they have got a packaging business and a recycling business and they go to tender so they can get paper principally and put it through a paper mill and turn it into cardboard. I am not sure that addresses your question. I can give you an example because I note circular economy was in here. The problem with circular economy in Australia is that it is stuck in the environment portfolio not in the economic portfolios, which is where it belongs, and the changes that Australia could make—and I will be having this conversation and putting in our report soon—I can tell you that you are looking at potentially up to, our initial estimates—I was at the World Resources Forum where I put them up to a pretty tough audience; we estimated that we are losing about 1.5 per cent of GDP that we could otherwise have

through our inefficiencies and our materials economy, that is nationally. It is a hard-nosed economic argument as well as an environmental and social outcome.

The CHAIR: Thank you. You have been really efficient and timely with your evidence. Thank you for your evidence. If the Committee has questions on notice you will have 21 days to reply to those and the secretariat will help you to do that. Your evidence has been very helpful.

Mr MUSGROVE: Thank you. I urge you all to have a tripartisan or quad-partisan view in the report rather than dissenting reports. We would love that.

(The witness withdrew)

EMMANUEL VIVANT, Executive Director—Development, Performance and Innovation, Suez Australia, sworn and examined:

The CHAIR: Mr Vivant, is that the right pronunciation?

Mr VIVANT: In French it is Vi-vant.

The CHAIR: Vi-vant—I love that. Mr Vi-vant. Je m'appel Paul.

Mr VIVANT: Bonjour.

The CHAIR: Mr Vivant, would you like to make an opening statement?

Mr VIVANT: I have a few words. Suez, which I represent this afternoon, is a global service company specialising in waste and water. We are very strong in New South Wales and in the waste business in New South Wales. We operate a number of facilities such as transfer stations, recycling facilities and landfills. Energy from waste is a core business for our company, not in Australia but in Europe, where we are involved in more than 60 facilities across Europe. We believe we have some expertise in this field.

Our view is that energy from waste has a role to play in the waste management chain and in the entire supply chain for waste that cannot be recovered, recycled or reused. Energy from waste diverts more than 95 per cent of the waste coming through our facilities. On average, the size of our facilities is around 200,000 tonnes per annum to 250,000 tonnes per annum, even though in recent years we have seen this average capacity increasing towards 350,000 to 450,000 tonnes per annum. Predominantly, these types of facilities are designed or used for domestic waste and we receive roughly 70 to 80 per cent of domestic waste and 20 per cent of commercial or industrial waste.

What is very important in energy from waste for every facility is stakeholder and community engagement. This is essential. Energy from waste is not different. Developing a facility for energy from waste requires a lot of education, especially in a country like Australia where there is no energy from waste. This is where, as a waste management company, we have a role to play alongside the Government, councils and representatives of the community. What is very important in deriving energy from waste is clearly about emissions and odour, which are critical issues. Our facilities are designed in Europe to meet the waste incineration directive, which has very stringent limits in terms of emissions, and the regulation in New South Wales is not very different.

Any energy from waste facility we would contemplate in New South Wales obviously would meet those stringent requirements with which we are very familiar. Beyond those stringent requirements is also the need for transparency vis-à-vis the community. This is about continuous monitoring for the community of online access to the emissions level. In conclusion, energy from waste is part of our core business. We have some expertise. We are happy to be here to contribute to this debate.

The CHAIR: Thank you. That is very good.

The Hon. PENNY SHARPE: I am very interested that you operate 60 different plants. All in Europe, are they?

Mr VIVANT: Yes.

The Hon. PENNY SHARPE: I am interested in why you choose the size of the plant the way that you do. You say it goes from 250,000 to 400,000 tonnes per annum. Why do you choose that size?

Mr VIVANT: Most of the time these facilities have developed through tenders. It is about a number of things that are needed to develop such a facility: to have the tonnage; it is a significant investment, so about financing; to finance such a facility, you need to underwrite the investment; when you go to any financier, they require a 20 to 25 years contract; and the minimum tonnage you would require would be 70 per cent to 80 per cent of the total volume of the facility to be contracted. When you combine those things and have a local government or local authority having a large volume of waste, it is not that easy.

The Hon. PENNY SHARPE: Are you able to provide us with what size of population you service with each of those? I do not know whether you were here for the previous evidence.

Mr VIVANT: I have not heard everything.

The Hon. PENNY SHARPE: A previous witness gave some statistics showing that Australians are terrible in regard to waste. We waste around three kilograms a day per person. He suggested that when he was in Europe it was around 400 grams.

Mr VIVANT: It was in Germany. It was not in Europe.

The Hon. PENNY SHARPE: It was in Germany. They probably get a big tick there. What is the size of population to get that kind of throughput you are looking at on average, or is it just that some countries are better?

Mr VIVANT: Some countries are better than others. Waste management and the waste collection system have a lot to do with culture and history and urban infrastructure; how you can collect waste—whether you can collect every day or once a week like in Australia—and do you have enough space to put bins. Waste is a general problem, which is shaped by the local context. While we can draw some comparisons in terms of production per capita and so on, the solutions have to be designed specifically for the local context.

The Hon. PENNY SHARPE: Do you have current proposals for energy from waste in New South Wales that you are considering?

Mr VIVANT: No. That does not mean that we are not looking at and working on some projects, but we do not have a project in the open. We have not submitted a proposal for that.

The Hon. PENNY SHARPE: We have heard a lot about the Environment Protection Authority [EPA] policy around this, which seems to be reasonably robust. I am interested in the plants that you have in Europe. What do they meet that policy, as you see it, currently?

Mr VIVANT: No, I do not think they would.

The Hon. PENNY SHARPE: Why not?

Mr VIVANT: Because the energy from waste policy if the EPA imposes a maximum percentage of waste that you can direct to energy from waste. I believe you have a three-bin system where you have the co-mingled recycling and green waste, which is only 40 per cent, I think if I am not mistaken. Forty per cent of the red bin would be about to go to energy from waste, meaning that you would need to have a pre-processing before going to energy from waste. If you go in Europe, again, it is difficult to make a blanket statement.

The Hon. PENNY SHARPE: Yes.

Mr VIVANT: If you go to France, you will have a two-bin system with recycling and the rest will go to getting energy from waste.

The Hon. PENNY SHARPE: This is the separation of the food and garden organics that is a particular issue?

Mr VIVANT: Yes, because if you go to the EPA, if you have kerbside recycling and food and green organics then 100 per cent of the red bin can go to energy from waste but you need food and green organics—you need to take out the food from the red bin in order to be able to send 100 per cent to the energy waste, according to the waste policy—

The Hon. SHAYNE MALLARD: Sorry, it sounds like your European models are actually incinerating recyclables?

Mr VIVANT: No, it depends what you mean by recyclables. You have separate kerbside recycling. You have the yellow bin; we have it existing in Europe as well but again, talking about bin waste in major cities, various people have bin waste so you do not have a separate—

The CHAIR: Mr Vivant, you might want to slow down because Hansard has to record that and you were firing along, and particularly with your beautiful French accent it is even harder.

Mr VIVANT: My apology.

The CHAIR: Perhaps you could recap your last comment about what you do or do not do with recycling?

Mr VIVANT: In Europe in most of the countries, most of the cities, you will have kerbside recycling collection and then the residual bin, the residual waste will go to a waste energy facility but the recyclables are removed at source.

The Hon. SHAYNE MALLARD: That is not the understanding I have been getting from the evidence today. I thought the Sydney red bins, which is putrescible waste—food waste and plastic bags—can still be sorted. You can reduce down—and our plants do that. I thought that the energy from waste was what could not be recycled and had no other option but to go to land waste?

Mr VIVANT: We have at Suez such a facility which is called AWT waste treatment in Sydney where the red bin is processed, where the organic matter is turned into compost and some recyclables but very few recyclables are pulled out because when it is coming, all its mix is contaminated. There is no outlet for such material.

The Hon. SHAYNE MALLARD: Is this at Eastern Creek?

Mr VIVANT: Eastern Creek is one facility, yes.

The CHAIR: The other comment I am getting from my colleague is that if Suez does not have contracts for certain waste materials does that go to energy from waste streams? For instance, certain councils would have contracts for certain bottle numbers—three, five, nine—and then they may not have contracts for the other ones so they have to deal with that separately. If you do not have contracts for your waste streams, what do you do with that stream of waste?

Mr VIVANT: Sorry, I am not so sure that I am getting the question.

The CHAIR: I will put it in plainer terms. As to energy from waste, I take from my colleague that you may even burn things that could be recycled but what I am saying is: If that cause exists, is that because you do not have contracts for that stream of waste?

Mr VIVANT: No.

The CHAIR: What would you do with that?

Mr VIVANT: You do not send to an energy from waste facility recyclables streams. What happens is that in the stream that you send to energy from waste, you have some recyclables left because people will throw a plastic bottle into a red bin. Coincidently this plastic bottle is a recyclable as an element but it is within the entire stream of the red bin and it will enter into a waste energy facility.

The CHAIR: It is just a really good thought that there are councils trying to deal with their waste streams and if they do not have a contract for a certain waste stream, I gather it probably goes into landfill because they have to do something with it. They have to deal with it; they cannot just stockpile it. It is an interesting point that we need to pursue as a Committee.

Dr MEHREEN FARUQI: While we are on councils, on page 3 of your submission there is some discussion about local councils maybe having to group together to commit to a long-term agreement on a waste energy facility, for instance. Given your vast experience on such contracts, would such an agreement have a commitment from councils within the contract to provide obviously a certain amount of feedstock for the facility?

Mr VIVANT: Yes.

Dr MEHREEN FARUQI: Would that then compel in the future councils to recycle more; give them incentive to recycle more so there is less feedstock for the facility or is that a disincentive for councils to do that? What has been your experience on that?

Mr VIVANT: Really, if you are a council it is important to take into account because you are talking about 20-year horizons and you have population growth as well so naturally the amount of waste which will be collected and managed by council will grow naturally because of population growth. Then, it depends also on the level of commitment of a council. Council is not necessarily obliged to commit to 100 per cent of their waste; it could be committing to 90 per cent or 80 per cent of their waste in order to take into account an increase in recyclables and therefore a diminution of the volume that will be directed to such a facility.

Dr MEHREEN FARUQI: We heard from a previous witness that there has been international experience to show that that does happen; that there are less recyclables collected because of that. Have you read that evidence or come across that in your experience?

Mr VIVANT: I will say to the contrary. To internal studies we have we say there is no evidence that energy from waste has impacted the recyclables.

Dr MEHREEN FARUQI: You have 60 energy from waste facilities across Europe, am I right?

Mr VIVANT: Yes, that does not mean we own all of them. Some we are part of but I do not have the number exactly of how many we own but we own a few of them.

Dr MEHREEN FARUQI: And they are scattered across Europe or are they concentrated in one particular country?

Mr VIVANT: No, clearly we have quite a large number in France and in the United Kingdom [UK] as well because the UK has undergone a huge transformation over the last 10 years and developed a lot of infrastructure and as part of this transformation we have developed several energy from waste in the UK.

Dr MEHREEN FARUQI: As part of the approval for energy from waste plants do you have to supply to the approval authority detailed waste characterisation of what might go into that facility?

Mr VIVANT: Most of the facilities are about municipal waste.

Dr MEHREEN FARUQI: Which is characterised well, I would say; municipal waste is often characterised well?

Mr VIVANT: Exactly. There are many studies and very well established characterisation of municipal waste.

Dr MEHREEN FARUQI: This is a hypothetical question because we have a proposal in front of us where more than 20 per cent of the waste is just classified as "other" without the authorities knowing at this point in time what this "other" is. In Europe would that be approved if you put in a proposal to say you did not know what 20 per cent of the waste was going to be? Would that be approved under the current conditions?

Mr VIVANT: I do not know. It is difficult for me to respond to a hypothetical question and a hypothetical situation. I do not know.

Dr MEHREEN FARUQI: Do you think it is reasonable in a proposal to not have detailed characterisation of the waste that you propose to put in the incinerator?

Mr VIVANT: I would say it is not unreasonable to have a fraction with no detail because also we know that the waste characterisation also changes over time but it depends on what percentage or what parts you are talking about.

Dr MEHREEN FARUQI: Today we have talked quite a bit about the social licence to build and operate these facilities in Australia. What is your view on getting the community on board, given that if there is pollution the impact will be on the health of the community and the environment? What is your view of the importance of making sure that the community does agree with having such a facility in close proximity?

Mr VIVANT: We believe it is essential.

The CHAIR: One of the things we have been talking about is the amount of waste going over the border to Queensland. In the last paragraph of your submission you say: "The unnecessary transport of waste undermines any potential …" Would you like to comment on any of that?

Mr VIVANT: I think it is self-explanatory. At the moment we can see a significant volume of waste going north and crossing the border because of the landfill price differential, which is driven by the fact there is no levy in Queensland. The big issue beyond that, if there is a loss of revenue for the Government of New South Wales, is the fact that as a waste management company it is very difficult for us to invest and to develop infrastructure because we have no certainty of the market because suddenly the waste generated in Sydney is escaping: It is being processed elsewhere. It is about underwriting and investment.

The Hon. JOHN GRAHAM: You have drawn attention to the fact that that proximity principle is already in place in Europe by directive and in Japan. Can you give us a sense of how well settled that principle is in both of those systems? It is pretty well accepted in each of those cases.

Mr VIVANT: Yes, it is well accepted. I have been in Australia for 16 years, so I have lost a bit of contact with the European regulation in detail, but it is true that in Europe it is well accepted that waste has to be processed locally or where it is produced. It can travel only if there are no recycling or processing facilities in proximity.

The Hon. JOHN GRAHAM: You provided some good context about the sorts of plants that your company might be considering. You said in your submission that you are exploring the development of facilities in some of Australia's capital city markets, and you outlined the sort of plant that you might consider for context, which might be 400,000 tonnes of waste per annum. The cost would be $400 million or $500 million to build the sort of plants you are considering, which you have built elsewhere. I am interested in that context. If your company, with its recognised adherence to standards and its reputation, was building something that was

much bigger than that—maybe three and a half or three and three-quarter times bigger than that sort of plant, presumably it would also be much more expensive. Looking at your context, it might be a $1.5 billion or $1.75 billion project. There might be some economies of scale but it would still be a very expensive project.

Mr VIVANT: Yes, whether there are some economies of scale depends on how many lines you consider, because with one line you can go to 300,000. If you go beyond, you will need two lines. It depends. It is not necessarily linear, but you are right: Where is it? Close to the site is where you also make economies of scale in terms of weighbridge, rolling infrastructure and grid collection, for example, which can be expensive as well. But definitely if you build bigger, it is more expensive.

The Hon. JOHN GRAHAM: It is definitely not a linear equation, but a much bigger plant is going to be much more expensive. Given you are saying a 400,000 tonne per annum plant might be built for $500 million, would it be possible for your company to build a much bigger plant—3.5 times as big—for just $700 million? Does that sound possible to you, given your experience in the industry?

Mr VIVANT: Difficult for me to comment.

The Hon. JOHN GRAHAM: Is that something your company would consider, though?

Mr VIVANT: We would have to go through the design and engage a contractor. It is too difficult for me to comment.

The Hon. JOHN GRAHAM: On your contracting point, you said that in order to finance, 70 per cent to 80 per cent of the waste streams should be under contract. That is the benchmark for your company. What would be involved for a project of that scale—1.3 million tonnes per annum? How difficult would it be to contract 70 per cent to 80 per cent of that? That sounds very difficult, the way you describe it.

Mr VIVANT: Yes, but again I think this is a requirement over our shareholders. We have different shoulders and we have different requirements. Some people may decide to build what we call merchant facilities, and we have no need to invest money and we have no contract or a very small portion. It really depends on the circumstances of each project.

The Hon. JOHN GRAHAM: It would certainly be much more risky if, from a financial point of view, that was leaning heavily on being a merchant facility in the way you describe. Certainly you would not accept in your company—

Mr VIVANT: Our shareholders would not accept it.

The Hon. JOHN GRAHAM: —such a heavy reliance on a merchant capacity.

Mr VIVANT: Yes.

The Hon. PENNY SHARPE: We have received some other submissions raising the issue of fine particulate matter, air pollution and the impact on human health, particularly regarding cardiovascular disease. There is emerging evidence around that. One of the submissions talks about the European Union being concerned about pollution from incinerators across Europe, even though it has high standards. One of our submissions says: "The European Union has proven the pollution from incinerators can cause cardiovascular and respiratory diseases as well as cancer. It is the leading environmental cause of premature death in the European Union." Would you like to comment on that?

Mr VIVANT: I am very surprised.

The Hon. PENNY SHARPE: So you are not aware of that coming out of the European Union.

Mr VIVANT: No.

The Hon. PENNY SHARPE: I would assume that if you operate 60 plants you would probably know about that.

Mr VIVANT: We have built some recent ones. The latest facility we commissioned was 12 months ago in the UK. We commissioned another one 24 months ago. I am very surprised.

The Hon. SHAYNE MALLARD: Your board in Paris looks at Australia to consider investment in these projects. It is timely that we are having this inquiry: You have talked about market certainty and we have heard others talk about regulatory certainty. What would you recommend to us if we wanted to attract responsible investment in this sector to New South Wales? What regulatory issues should we be looking at now

to make it attractive to international investors like Suez? Your board is saying there is too much risk or too much uncertainty or the Government policy is not clear yet. What is your response to that?

Mr VIVANT: I think we touched early on on the proximity principle, which is quite essential to whether you can guarantee the market—do not get me wrong—enough for the operator to be competitive in that market. Then the second thing, energy from waste—for example, talking about the regulatory framework and energy from waste—will produce 20 per cent to 25 per cent of what we call the bottom ash, which in Europe is recycled in road base or aggregate. It is important that there is the proper regulatory framework, otherwise this material will end up in landfill.

The Hon. SHAYNE MALLARD: Bottom ash?

Mr VIVANT: Yes, the bottom ash.

The Hon. SHAYNE MALLARD: It has to go to landfill, does it?

Mr VIVANT: If there is no regulatory framework or the regulatory framework is too stringent then it will end up as landfill. It is important that all aspects of the facility, whatever the facility is, is covered by regulatory frameworks which are certain and will not move in the near future.

The CHAIR: Thank you for your presentation today. There may be further questions from the Committee and you have 21 days within which to answer them. The secretariat will assist in that.

(The witness withdrew)

(Short adjournment)

DONNA RYGATE, Chief Executive, Local Government NSW, sworn and examined

SUSY CENEDESE, Strategy Manager Environment, Local Government NSW, affirmed and examined

LEISHA DEGUARA, Senior Policy Officer Waste, Local Government NSW, affirmed and examined

The CHAIR: Would anyone like to make an opening presentation?

Ms RYGATE: I know I am speaking to the converted, but for anybody who reads the transcript, Local Government NSW is the peak organisation for local government in this State. We do a lot of policy advocacy and industrial work and service provision for and on behalf of councils and council-like organisations, including county councils, and a variety of other things. We are grateful for the opportunity to come along this afternoon and we welcome the attention that this inquiry has brought to waste management. It often seems to our sector that waste management is one of those almost forgotten essential services for the New South Wales community.

Local government is the primary provider of waste services for the New South Wales residential community. Our submission and our evidence today is in relation to municipal, domestic or household waste, rather than the industrial side of things. Councils across New South Wales, I think their overriding message is that a long-term infrastructure strategy is desperately needed in New South Wales in relation to waste. Councils in both metropolitan and regional New South Wales struggle to access the infrastructure that they need to adequately divert waste from landfill. Sydney's infrastructure is under particular pressure with waste facilities being established further and further away from the source of the waste.

One of our absolute take home messages for you today is that the waste levy should be fully reinvested to support recovery of more materials from the waste stream and, for example, to support higher order resource recovery infrastructure. Landfills account for approximately 3 per cent of Australia's greenhouse gas emissions and landfill gas capture we think does not effectively mitigate that impact. Landfilling also has a number of other environmental and public health risks. As per the waste hierarchy, energy from waste is considered preferential to landfilling and when carried out properly it can have the dual benefit of managing waste and generating electricity, decreasing demand on fossil fuels.

Councils are working very hard and have been for some time to divert waste from landfill and to meet State recycling targets. Councils are interested in energy from waste as an alternative to landfill, but again I reiterate that it is within its place in the waste hierarchy, which is much more down towards the bottom than up the top of that avoidance, reuse, recycling and all of that. Councils are not seeking to use energy from waste in place of current recycling processes. It is not a substitute for any of those things further up the chain. We do think that strong planning and environmental controls must be applied to energy from waste facilities in New South Wales and that those controls should be updated regularly in line with learnings, both here and overseas. We also think that communication with the community is really critical in relation to the issue of energy from waste. In terms of the specific facility at Eastern Creek that has generated much media interest, we would obviously refer you to the views of our member council which is the council where that thing is proposed to be located. They have much more specific advice on that particular facility.

The CHAIR: You mentioned earlier the distance between energy and the centres of use. Eastern Creek is a classic example where it does exactly that; it is bringing an industry closer to the user group. How do you reconcile that with the earlier comments in your opening statement, even though you have stakeholders who may hold alternative views?

Ms RYGATE: Our view is that you should look at energy from waste at the appropriate point in the waste hierarchy when there is nothing better that can be done with it. Yes, we think that the distance between the collection of household waste and the landfills is becoming a bigger and bigger problem. But the key to success I think is about making sure that the decisions about the siting of any of these types of facilities are really good decisions, that the place is the right place and that the appropriate controls are in place. I do not see them as being inconsistent if you look at it in that broad sense.

The CHAIR: Can I ask you about the waste levy?

Ms RYGATE: Please do.

The CHAIR: We are kindred spirits on this. The poor inquiry members have been dragged through this issue with nearly every witness. Can you mention generally the cost shifting that local government experiences across the board?

Ms RYGATE: Certainly. Local Government NSW does a cost shifting survey—and in recent times we have done it every two years—to look at the costs that are imposed on local government, and of course our communities, as a result of decisions by other spheres of government, be they State or Federal. Regrettably, it is mostly the State, our research tells us, to impose additional responsibilities on local government to shift their own responsibilities to local government to deliver those services, or as is often the case, to start delivering something in a pilot, walk away, and have the community demand that local government pick it up. Our last cost-shifting survey which went out the end of the year before last—we are just about to sort out the next one—said that the cost shift to local government was over $600 million a year. We expect that when we do that—yes, it is a big number is it not?—when we collate the data for this year's survey the number will probably be bigger still and that is a real problem that needs to be addressed.

The CHAIR: The reason I asked for that figure is that the cost shift then impacts the cost shift of the waste levy, which could be considered as a waste tax, in regional areas. Shoalhaven City Council is collecting $10 million a year and only seeing $1 million back in environmental initiatives. That is $9 million that has been shifted across the State. That council is then looking to build some infrastructure to address the waste from landfill, which it has to fully fund. Then it has to beg, borrow and steal for a pittance to come back from environmental programs. Is that your experience across other local government areas?

Ms RYGATE: Yes. Overall, we think that the amount collected through the waste levy should be fully reinvested.

The CHAIR: Hypothecated?

Ms RYGATE: Yes. We did a bit of research prior to coming today and the best figure we were able to find was that only about 20 per cent of the waste levy comes back. I encourage you to confirm that with the people at the EPA if you did not talk to them about it earlier today.

The CHAIR: I did ask them for a total breakdown.

Ms RYGATE: That number really is not good enough when this is an area that is in desperate need of more infrastructure and more sophisticated infrastructure so that we can get the best out of the waste stream rather than having stuff end up in landfill that could be much more beneficially reused somewhere else.

The CHAIR: Are you aware of where the other 80 per cent goes?

The Hon. SHAYNE MALLARD: Hospitals and schools.

Ms RYGATE: That is the assumption I make.

The CHAIR: Where the 80 per cent goes is just the obvious question.

Ms RYGATE: And nobody would argue that those things do not need to be adequately funded.

The CHAIR: It is pretty obvious that the waste levy is pretty unfair and double dipping on ratepayers, who have to pay for that facility to be built on top of only getting a pittance back from the levy. You talk about a long-term infrastructure strategy. We heard some evidence today that that is probably lacking in New South Wales. Do you want to make some further comments about a lack of infrastructure across New South Wales means in terms of waste management?

Ms RYGATE: I might hand over to my colleagues about that because in talking to councils in putting together our submission to your inquiry it was an absolutely recurring theme. I understand it has also been a theme in the other submissions you have received from our sector.

Ms DEGUARA: That was certainly my experience having spoken to a lot of councils about this particular topic. As you know, there is one landfill in the Sydney metropolitan area at Lucas Heights. I am not saying that landfills should be built in the middle of Sydney; however, councils alone find it very risky and challenging and costly to build their own infrastructure. Left to the market alone I do not think the market is going to respond to the needs of the community by itself. It certainly has not in the past. If we are to really address the waste hierarchy how we need to there needs to be a strategic plan to look at each level of the waste hierarchy and try to deliver infrastructure at each level rather than just letting the open market provide where there is financial opportunity or incentive to do so.

The CHAIR: That would be really achievable if the section 88 levy was hypothecated, would it not?

Ms DEGUARA: It would certainly help.

The CHAIR: Most councils cannot afford waste infrastructure because they have not got the funds, but the funds are being collected already.

Dr MEHREEN FARUQI: You have convinced me, Paul.

The CHAIR: I just want to make sure Hansard got that. Dr Faruqi said I have convinced her.

The Hon. JOHN GRAHAM: Thank you for your submission. I have found it really useful as an overview and I think you have captured the range of views that have been put to us over the course of the day. A number of people submitting to the inquiry have said that the coordination of waste streams is crucial to being able to develop this part of the industry. To be able to develop waste for energy projects we need to get a number of councils to work together, accepting that we should be recycling what we are able to recycle. When you get to these streams that might be appropriate for waste for energy it would help if there was some coordination between councils to aggregate those waste streams. What would it take to do that, or have you got views about how that would be more easily coordinated?

Ms RYGATE: In my experience councils distinguish themselves amongst spheres of government in wanting to work together where it makes sense. There are far fewer barriers to collaboration in local government than you might see in other places. If councils could see benefit in pooling their resources to engage a facility to draw out particular bits of the waste stream and send it down this path I do not think there would be any particular difficulty to them doing that. We already have, as you know, strong regional organisations of councils structures and those things work pretty well. We also have collaborative purchasing arrangements through Local Government Procurement. That organisation, which is part of our organisation, does collective buying for councils, including in terms of waste services. There are existing mechanisms in place.

The Hon. JOHN GRAHAM: Should they see the benefit.

Ms RYGATE: That is right.

The Hon. JOHN GRAHAM: Witnesses from the Clean Energy Finance Corporation said early this afternoon that in their view this technology represents not a massive piece of the puzzle but a piece of the puzzle nonetheless. In their view there is $1 billion of projects ready to move in New South Wales and they would be happy to finance some of them. One of their key bits of evidence was to say if they were able to coordinate more closely with councils it would make this easier.

Ms RYGATE: I will leave my number and tell them to come on down, seriously.

The Hon. JOHN GRAHAM: I was left asking how we could coordinate that more closely.

Ms RYGATE: I think councils are both resource starved and innovative enough to understand when there is an opportunity. If there are ways that we can connect those dots we would be more than happy to facilitate that.

The Hon. JOHN GRAHAM: Obviously, having a strategic plan across the State would help. There has to be a space for this strategic discussion to happen. Probably the lack of those two facts, being projects ready to go and councils willing to receive them but not being connected, is a sign that the strategic plan is missing.

Ms RYGATE: I think the strategic plan ideally would come first because you would have a sense of what are the different aspects of the overall waste challenge that you are trying to solve, how you might do that, where the most strategic investment can be made and the different sources of the fund, whether it is the Clean Energy Finance Corporation or indeed greater access to the money that is collected through the waste levy.

Ms CENEDESE: The other issue to consider is timing. A number of councils have regional waste contracts which can be for multiple years, 10 or 20 years. It may well need to be a long-term vision. Obviously, you cannot go out and contract for collection of materials to go to a facility that does not exist. There are those logistical issues that need to be overcome and planned for as well as the timing issue of when particular contracts come up for renewal and online so that material can go to these new facilities.

Ms RYGATE: But now is the time to be thinking about this, particularly given that we have got the container deposit scheme coming online at the end of the year. That will be a step change in terms of waste stuff here in New South Wales.

The Hon. JOHN GRAHAM: Is that information about what bits of the waste stream are contracted out already visible to potential investors? If you were looking to develop a plan across the State that is a crucial piece of information. There is no reason to hide it.

Ms RYGATE: I would think it would be visible. Certainly there are tenders done for groups of councils for X periods of time. The people that are active in the market would be aware of that, I would think.

Ms DEGUARA: Industry is certainly aware of which councils are going out to tender and which groups of councils are going out to tender at any one particular time. There are not many players in the industry anyway, so they keep a close eye on it and they usually all bid for each tender anyway—or most of them do. But as far as I am aware it is not publicly available information.

The Hon. JOHN GRAHAM: That is certainly true of the existing industry players, although one of the things we are talking about here are new players and some new technologies. This morning witnesses from the Environment Protection Authority said there are a significant number of grants allocated but unspent by councils in this area. They are prepared to issue grants and some of those are unspent. We have heard already some of the reasons why that might be the case. It takes a bit of time to get these projects off the ground and there might be other reasons why it is unspent. I would like to give you the opportunity to speak to that point. Why is it that the EPA is willing to hand over money to councils but it might not be being spent at the moment?

Ms DEGUARA: I can answer that. The Waste Less, Recycle More program establishes a number of grant projects. It hands uncontestable funds to councils through the Better Waste and Recycling Fund, and through a number of other streams it provides money for litter grants, infrastructure grants and so on. There is a rigorous grant application process, which is sometimes off-putting to people. As you said, some projects might have been half completed and something has happened, such as an amalgamation. The list is endless as to why a project might not have been completed. However, councils certainly need more money. It is just whether it is given under a set list of conditions, such as you must complete a litter check prior to carrying out a project. They might not have been able to do that for a certain reason and so on. There is a big pool of money, but there are specific conditions as to how it is spent.

Ms RYGATE: It goes to the earlier question about scale. You can do relatively small things with individual councils, but you can do much bigger things with groups of councils. It is about looking at it in a much more strategic way. For the purposes of disclosure, Leisha is funded from the Waste Less, Recycle More program, and I am on the Container Deposit Scheme Ministerial Advisory Committee. I want to be fully open and transparent. They are spending their money wisely in many ways.

The Hon. SHAYNE MALLARD: That is the waste levy at work.

Ms RYGATE: Thank God! And Leisha does not get that money.

The CHAIR: Only 20 per cent. Imagine what we could do with 100 per cent.

Dr MEHREEN FARUQI: Thank you for appearing before the Committee today to give evidence. We know that New South Wales is improving its recycling rates every year. One of the issues I have with the whole waste management cycle in New South Wales is that we still keep generating more and more waste, even though we are recycling more. As I understand it, while we have targets for recycling, we do not have targets to reduce the amount of waste we generate. Is it correct that we have no target?

Ms CENEDESE: Yes.

Dr MEHREEN FARUQI: You spoke earlier about how we should look at having strategies for the higher-level objectives of the waste hierarchy, such as avoidance and reuse. Where should we go with that? Do we need more focus on those two strategies so that we do not end up going to disposal of waste and waste to energy objectives?

Ms RYGATE: Ideally, we would focus all the way through the process, and ensure that stuff is not waste in the first place.

Dr MEHREEN FARUQI: How can we improve it? We heard this morning that in Germany, for example, it is 400 grams per person. Here it is 3,000 grams, which is a huge difference. Obviously there are things that can be done to make it better. What would you recommend?

Ms DEGUARA: Obviously anti-consumption advocacy is not welcomed. Local Government NSW is quite strong on extended producer responsibility. We advocated strongly for the container deposit scheme that is now in place, and we will work further on other packaging and extended producer responsibility campaigns in the future. That is an important way in which we can help to reduce the generation of waste; that is, stop it becoming waste in the first place.

Dr MEHREEN FARUQI: On page 5 of your submission you talk about refuse-derived fuel [RDF]. The second point at the top states:

> RDF is an 'energy from waste' technology whereby the combustible material is extracted and used as fuel. A number of councils use this technology which is available as a recovery option through the private sector. This material is shipped to south-east Asia and converted to energy under local environmental standards.

Is all RDF handled by councils shipped to South-East Asia from New South Wales?

Ms DEGUARA: As far as I am aware, the only option at the moment is to use Suez Australia. Suez has a facility in South Australia, but as far as I am aware it is not yet available to New South Wales councils. At the moment, that option is all that is available.

Dr MEHREEN FARUQI: What sort of waste is being shipped overseas?

Ms DEGUARA: We are talking about plastics that come out of AWT processing plants, where they pull what they can—compost and the like—from the residual waste and end up with primarily a composite plastic block that is used to feed energy from waste facilities in Malaysia. I think it is used in brick kilns.

Dr MEHREEN FARUQI: Can you provide a list of the councils that do that and how much waste is shipped overseas? Is that information readily available?

Ms RYGATE: We can certainly investigate, but we cannot guarantee to provide it. If we can find more information, we will be happy to provide it to the Committee.

Ms DEGUARA: If it is not confidential.

Ms RYGATE: That is true; there are commercial arrangements.

Dr MEHREEN FARUQI: Do you think the residents of those council areas know what is going on? Is it widely known, or not necessarily? Of course, that could be an unfair question.

Ms RYGATE: It is probably an unfair question. I hope that if the residents of those councils do know it is going on they understand the context in which it is happening. This is not the first place that that waste goes, and no council would be so environmentally unsound as to have that as its first solution. We are talking about the legitimate use of a material that would otherwise end up being landfill as an alternative to using other sources of fuel, which have their own environmental impact.

Dr MEHREEN FARUQI: So councils would be selling that waste to those companies?

Ms DEGUARA: I do not think it is sold; I think it is part of the Advanced Waste Treatment process.

Ms RYGATE: Councils have contracts with people who collect and process it.

Ms DEGUARA: It is an option. If the council chooses to process the material from the red bin, this is the end product that would otherwise go to landfill. They can use that as a fuel in an overseas facility. If energy from waste were an option here, they could use it, but not at the moment. When we say that it is preferable to process it here rather than overseas, we do so because disposing of waste in your own backyard is better than sending it to someone else's backyard.

Ms RYGATE: We are also confident in our environmental controls and the rules under which that would happen.

Dr MEHREEN FARUQI: Obviously you are aware of the proposed huge waste to energy facility in Sydney. I think it will process 1.34 million tonnes of waste per annum. A few people have raised concerns about the source of the feedstock. It is massive. Will it impact on recycling rates?

Ms RYGATE: Do you mean material that should be recycled?

Dr MEHREEN FARUQI: Yes. It is huge. I am not sure how much commercial, industrial and demolition waste will be used in the incinerator. I understand that four million tonnes of waste is produced every year in New South Wales. That is a big chunk of the overall waste produced. Will waste from throughout New South Wales come to that facility? Are you concerned that it will impact on recycling rates?

Ms RYGATE: I refer back to our initial comments. We see a role for waste for energy, but only after the higher and better uses have been met. We would not see it as a substitute for recycling, reuse or anything like that. It is definitely a lower consideration after you have looked at all of those options and done your best with the waste stream. I also emphasise the importance of proper controls for whatever facility is established.

There are also planning considerations with regard to siting, and the impact of transported material. Those issues are extremely important in making a decision about any facility of that kind.

Dr MEHREEN FARUQI: I presume you support the New South Wales EPA policy on energy from waste. I am particularly talking about two conditions they talk about, which are that any energy recovery proposal represent the most efficient use of the resource and that it is achieved with no increase in the risk of harm to human health or the environment. Do you agree those should be the conditions?

Ms RYGATE: I am not sure many people would argue with them.

Dr MEHREEN FARUQI: We have had some argument this morning.

Ms RYGATE: Oh, really? I am sorry we were not here.

Ms CENEDESE: To go back to your concerns about tonnages, in our submission on page three we included some information from the Local Government Waste and Resource Recovery Data Report which talks about the fact that in 2014-15 1.77 million tonnes of material was recovered for recycling, composting et cetera and the remaining just under two million tonnes was landfill.

Dr MEHREEN FARUQI: Does that include commercial industrial—

Ms CENEDESE: No. That is just municipal. So you can extrapolate from that.

Dr MEHREEN FARUQI: I understand that is not going to go as feedstock for this proposed incinerator—that it is mainly commercial industrial and commercial demolition. Thank you.

The Hon. SHAYNE MALLARD: Thank you for your submission. In your submission you talk about a theme we have spoken about with you already but we have also spoken about it with just about every person who has been here today: the infrastructure issue. We heard from the EPA this morning about the draft strategy they are about to release on infrastructure. My colleague here is keen on funding it from the levy. Your submission talks about that infrastructure being pushed further away from the population. In your submission you say of the private sector:

> In most cases, it is no longer viable for the waste industry to provide infrastructure where it is most needed.

Yet this one at Western Sydney, which is a huge investment, is going to be closer to the population, the market that needs the resources, and the councils out there. How do you marry that up—the fact that there is a proposal in the location and you are saying it is not viable and the industry is not doing it? There is one right before us.

Ms RYGATE: That is somewhat similar to the question that the Chair asked a little earlier. What we are saying is that, all things being equal, it makes sense to have your waste facilities proximate to where the waste is collected—then you do not have all the additional transport costs, environmental impacts and all of that associated with just getting it to the next place. But we are also saying that decisions about what you locate and where you locate it must also hinge on issues of appropriate environmental controls—potential impacts on human health and the environment and you need to make sure that those things are dealt with properly and thoroughly. You also have to deal with all of the planning issues we were talking about a moment ago, both in terms of the site itself and in terms of the operation of the site, transporting volumes in and out and all of that kind of stuff. It is quite a complex question. If you were hoping that we might say, "Just go for your life," we are probably not going to say that.

The Hon. SHAYNE MALLARD: We had evidence from the Australian Council of Recycling pleading with us to try to avoid nimbyism around the location of these resources. I was a councillor for 12.5 years, as you probably know. I have been involved in concrete vacuum plants and dial-a-dump locations and there was always local pressure against that. Even if it does tick the boxes, it often does not get approval and is given a hard time.

Ms RYGATE: And it is much more difficult to establish a new one these days than to continue to operate your existing—

The Hon. SHAYNE MALLARD: And industrial zones are being pressured and squeezed up as mixtures for rezoning occur—for instance, as happened in South Sydney. More residents are closer and closer and it gets harder for a city to have those functional things. I cannot remember who gave the evidence, but someone earlier today suggested that we needed to more clearly define where the locations for these facilities so there is more certainty for investors.

The CHAIR: Waste precincts.

The Hon. SHAYNE MALLARD: And maybe not just in local government areas but in the metropolitan area. Would you suggest that is the way to go? And then which council would you nominate?

Ms RYGATE: None of our members.

The Hon. SHAYNE MALLARD: A couple of years ago I was at Liverpool. It has always been the dumping ground in the past but the whole area has changed dramatically and it does not want to have those facilities on the Georges River.

Ms RYGATE: And I think we have to have a conversation with the community about what a waste precinct would be. It is a very different thing from your 1950s great big open-cut tip that everything went in and stuff blew around and people lit it every now and again. With technology, something that is some sort of waste related facility could be quite innocuous if done well. There is a lot there.

Ms DEGUARA: I add that waste infrastructure does not necessarily have to be a massive landfill or a massive energy from waste facility. It could be as small as a transfer station, reuse hub or a community recycling centre. As it stands at this point, the EPA is giving out money for councils to set up community recycling centres. However, only two that I am aware of have been set up in the inner city area, which does not serve the targets—

The Hon. SHAYNE MALLARD: I opened the Leichhardt one six months ago.

Ms DEGUARA: Sorry, there are three.

The Hon. SHAYNE MALLARD: It is not called Leichhardt now; it is the Inner West Council.

Ms DEGUARA: There is North Sydney, Inner West and Randwick, so three of them. They are really struggling to be able to find somewhere they can put these facilities that can take the residents' waste. When you are saying the facility is proposed for Western Sydney, I do not think the councils in Western Sydney would say that that is actually close to the source when a lot of the waste is coming from the inner city. It is being moved further and further out west. I guess the need for a strategy is reactionary in some sense, because Sydney has already been built. We are putting a layer of infrastructure over something that has already been built. Somehow we have to go back and build the waste infrastructure into our existing city.

The Hon. SHAYNE MALLARD: That is a challenge.

Ms RYGATE: Yes.

The Hon. PENNY SHARPE: A couple of people today have mentioned the report of the Southern Sydney Regional Organisation of Councils [SSROC] into social license and energy from waste facilities. Everyone says this is not public. Are you able to shed some light on why this is not public?

Ms RYGATE: It is a very good question.

The Hon. PENNY SHARPE: Who actually owns it and who did it go to?

Ms DEGUARA: SSROC should be able to provide it, I would imagine, for the inquiry. It is not publicly available, as in we do not have access to it. SSROC in their submission have said it is not publicly available as well. However, I think it was Hunter's Hill Council that referred to various parts of the report or a presentation about the report.

Ms RYGATE: Have you got SSROC coming along?

The Hon. PENNY SHARPE: No, but I think we might ask them, given that a few people have referred to this.

Ms DEGUARA: It would be worthwhile.

The Hon. PENNY SHARPE: If they have done a lot of this work, it seems that we should be sharing a bit more.

Ms DEGUARA: That is right.

The Hon. PENNY SHARPE: Thank you. Further on in that section of your submission you talk about when we are approving energy from waste facilities that we must ensure the bona fides of the proponents. Could you expand on what you mean by that?

Ms CENEDESE: Essentially, in any licensing venture or any business venture you want to understand that the proponent is capable and has all the right measures and controls in place—essentially, understanding who they are and that they are an upstanding operator.

Ms RYGATE: I do not think there was any hidden meaning in that. Given the background of some of the people in front of you has been in environmental regulation, it is just a standard thing—the first thing you start with in this sort of space.

The Hon. PENNY SHARPE: On the issue of the general lack of planning instruments for waste infrastructure, the EPA indicated this morning—I think they have read the submissions as well—that they are doing a strategy which is due to go out any minute now for consultation. Is it your view that it needs to be more than just a strategy out of the EPA and it probably needs to be part of the planning instruments under the State environmental planning policies [SEPPs]?

Ms RYGATE: I do not know if a SEPP is necessarily the answer but I think it needs to be a whole-of-government infrastructure strategy. This issue of waste and waste infrastructure has been around for years and years and years and government of whatever colour has not nailed it. We would encourage a proper whole-of-government strategy on this that has the planning stuff covered, the environment stuff and there are transport bits that need to be in there as well. The whole box and dice.

The Hon. PENNY SHARPE: Perhaps also something for the Greater Sydney Commission?

Ms RYGATE: Possibly, although that is often through a planning lens. That is a big part of the issue but it is not the whole.

Ms DEGUARA: Could I just add to that? It is not just a Sydney issue.

The Hon. PENNY SHARPE: I know.

Ms DEGUARA: It is across New South Wales as well. Sydney has a particular issue that the rest of greater New South Wales does not face, but they face other issues.

The CHAIR: Is there anything else that the Committee may not have asked but you would like the Committee to know about?

Ms RYGATE: We concur with the Chair's views on the waste levy, quite strongly, and the strategic infrastructure plan. No, we are all good.

The CHAIR: Thank you for giving your evidence before the Committee today. You have 21 days to answer any questions taken on notice. The Committee may also wish to ask some further questions.

(The witnesses withdrew)

MARK EDWARD TAYLOR, General Manager, NSW Resource Recovery, Veolia, sworn and examined

The CHAIR: Would you like to make a brief opening statement?

Mr TAYLOR: I would. First of all, thank you for the opportunity to contribute to this inquiry. In my role within Veolia I run the waste infrastructure business in New South Wales. We manage about one-third of Sydney's putrescible waste stream. I have been within the Veolia business in Australia for six years. Prior to that I spent 15 years within the Veolia United Kingdom business, running a large integrated waste management contract with energy from waste composting, recycling and landfill infrastructure as part of an integrated waste management solution for a large local government authority.

Veolia have been around for 150 years, offering water, waste and energy solutions to local government and industry. We operate 60 energy from waste plants around the world, predominantly in Europe but not all in Europe—some in Asia. Without exception, I believe all of those are operated under long-term contracts with local government and with the support of the communities in which we are operating them. They range from the very small, 65,000 tonnes a year, up to the very, very large. We are currently in the process of building a 1.6 million tonne energy from waste plant for Mexico City. It is not quite the largest in the world; as I understand it, the largest in the world is 1.8 million tonnes in the process of construction for one of the provinces in China. We are effectively demand-driven. We will build and develop and operate the facility that the local government chooses to tender—we generally respond to tenders.

In terms of our submission, I hope our submission puts some context and history around energy from waste in New South Wales but Sydney more specifically. If we have got any key messages it is really that energy from waste can form a sustainable part of an integrated waste management solution. Veolia support the New South Wales Energy from Waste Policy and the levy framework in the right context. We would like to see more regulation, specifically in the area of extended producer responsibility [EPR] and we would also support the returning of levy funds to drive investment in the industry.

I think it is important to recognise that industry requires certainty. That applies in terms of regulation, the planning framework, waste supply, energy offtake agreements and, most importantly, the support of the local community in which these facilities are operating and across all layers of government. That is the only way I think jointly we are going to be able to deliver a successful energy from waste project. We would like to see government drive the agenda rather than what appears to be the situation in New South Wales—it is very market led. I think if it continues to be market led you are going to end up with perverse outcomes.

The CHAIR: Mr Taylor, before we proceed to questions. Would you be open to hosting the Committee at one of your sites—for example, at Woodlawn or one of your other sites? Perhaps you could take that question on notice.

Mr TAYLOR: Yes.

The Hon. PENNY SHARPE: Your submission gave the Committee a really good geographic understanding of what is going on and of some of the capacity constraints that we are all about to bump into. Can you confirm that it is your view that asbestos needs to be put into landfill and that there are issues in relation to the dumping of asbestos? Do you have a view about asbestos?

Mr TAYLOR: The only available treatment for asbestos or asbestos-contaminated soils is landfill, yes.

The Hon. PENNY SHARPE: I want to ask you about the issue of dealing with municipal waste and being able to separate out the red bins with the organic waste. I do not know if you were present but previous evidence suggested that that was annoying and not the way to go. You appear to have a different view about that. Can you talk the Committee through how that would occur? Can you tell us how Veolia does that? Indeed, what changes would we need to make in the system that operates in, say, Sydney to make that work?

Mr TAYLOR: Veolia does it a number of different ways across a number of different jurisdictions. In Victoria, for example, we have recently built what you call a combined food, organics and green organics [FOGO] processing facility where we are effectively co-composting the food waste that is collected jointly with the garden waste. In New South Wales we have recently constructed and are in the process of commissioning a mechanical, biological treatment plant similar to the plant Suez currently operate in Sydney, where we are taking the red-top bin and extracting the organic content and producing a compost for mine site rehabilitation.

The Hon. PENNY SHARPE: What is the actual process for doing that?

Mr TAYLOR: The first part of the process is where a rotating drum effectively kick starts the biological process or the breakdown of the waste. Municipal waste will be 60 per cent to 70 per cent organic in content—predominantly food, paper and garden. Once the waste has gone through that process, it goes through a number of different sorting processes both in terms of size and density using trommels, air separation to separate the organics from the inorganics. Then we are taking the organic fraction and we are composting that inside through a forced aeration process. The organic content will sit in that controlled environment for six weeks. Then we screen out the remaining contaminants to produce a final compost. In that process we can divert approximately 50 per cent to 60 per cent of the red bin from landfill.

The Hon. PENNY SHARPE: When you split off the organics from the inorganics—I am talking about the people who are throwing their recyclables into the red bin—are you able to do further recycling through that?

Mr TAYLOR: It is relatively easy to extract the metal content but anything else is too contaminated. We, and others in the industry, are looking at the potential to convert that heavily plastic stream into a fuel source. You have heard earlier today about the potential for the use of that type of fuel in industrial applications—predominantly the cement kiln industry.

The Hon. PENNY SHARPE: Essentially, once those plastics are in there they can really only go to energy from waste. There is not really the ability to pull them out of the stream for recycling.

Mr TAYLOR: They are far too contaminated.

The Hon. JOHN GRAHAM: I was interesting in the plant you are currently building in Mexico—$1.6 million tonnes per annum. What is the value of that project?

Mr TAYLOR: I would have to take that on notice.

The Hon. JOHN GRAHAM: If you could, that would be helpful. Obviously the regulatory conditions would be different over there. With respect to the European conditions or the EPA conditions which are applying to air emissions and the like, can you give us some idea of the difference in those for that project?

Mr TAYLOR: I cannot talk specifically, but we would be applying international best practice to any facility we built anywhere.

The Hon. JOHN GRAHAM: Across the board.

Mr TAYLOR: It would be broadly the same criteria to a European plant. In fact, the technology provider would be one of the European technology providers.

The Hon. JOHN GRAHAM: If you could provide that on notice, that would be useful. I was also keen to ask about the extended producer responsibility. You have some quite specific information about where they Commonwealth has been able to act in this area and you are provided some views—it would be fair to describe them as pretty strong views—about this only being a small start in this area. Would you like to give us any more information about where you see the potential of this type of scheme in Australia.

Mr TAYLOR: I think producer responsibility sets a framework where the polluter pays. So anybody involved in the production, distribution and retail of items needs to take responsibility for the waste that that product eventually produces. It is a difficult thing to introduce. There is obviously a lot of push-back from industry. Recycling only happens if it is funded. You can do that by setting a very high landfill levy, and therefore encouraging diversion away from landfill, but it is a very big-stick approach. It is one tool. You really need to look at how the producer funds the circular economy more generally.

In an Australian context, most of the schemes have not been mandatory. There have certainly been some significant challenges around the television and computer screen scheme in that it stopped and started because levels of recycling were met and so the scheme was immediately terminated. That left a lot of the infrastructure high and dry. It really needs to be mandated and compulsory across broad categories of waste. The most prevalent currently across the rest of the world seems to be electrical equipment.

The Hon. JOHN GRAHAM: Yes. Obviously the levies drive activity across the economy, but for particular streams of waste we might really want to keep an eye on, this is a much more targeted way to regulate it, and should be much more successful if there is certainty provided and if the policy settings are right.

Mr TAYLOR: Yes. One thing it does is provide industry with certainty and markets for products and involves the producer—of whatever material or item that might be—to think differently about how they are producing to make things more recyclable in the production process.

Dr MEHREEN FARUQI: Thank you for coming in today to provide evidence. I think you said something earlier to the effect that market-led approaches to energy to waste could lead to perverse outcomes. Could you elaborate a little bit on what those perverse outcomes would be.

Mr TAYLOR: I could maybe take it in the context of the proposal that you are considering—the 1.2 or 1.3 million tonne facility out in Western Sydney. That potentially creates a monopoly in waste treatment. Yes, it would compete with the current landfill infrastructure that we provide and which Suez and other companies provide. Built at that scale, from a cost perspective, it is very cost effective. In a number of ways it may preclude the development of further facilities. Just in terms of the total waste arising in Sydney, it would be, broadly speaking, four million tonnes. If the energy from waste policy is met and this is only processing residual material from treatment facilities—or other material that has gone through a degree of source separation—there is very little waste remaining.

Dr MEHREEN FARUQI: So, in effect, there is a risk that if this facility was approved and built there might be waste that is recyclable going into that facility.

Mr TAYLOR: I think the New South Wales EPA policy tries to ensure that that does not happen but I think the major risk is producer responsibility regulation and those sorts of waste streams that are not really recyclable today but have the potential to be recycled through an extended producer responsibility scheme.

Dr MEHREEN FARUQI: So that may not happen if we have a facility that is taking all that waste.

Mr TAYLOR: Yes.

Dr MEHREEN FARUQI: You mentioned that your company is building a 1.6 million tonne waste-to-energy facility in Mexico city. What sort of waste would that take?

Mr TAYLOR: That would be in partnership with the city itself. This facility is also being used to power the local tram network. It is effectively providing an energy source back into the city, as well as managing that waste stream.

Dr MEHREEN FARUQI: But what is the waste stream that is being burnt?

Mr TAYLOR: It would be predominantly municipal waste.

Dr MEHREEN FARUQI: You just spoke about the current proposal that is being considered in New South Wales. One of the issues that I am quite concerned about is that it does not stipulate exactly the character of the waste that is going to be burnt in this facility. For example, more than 20 per cent is "other", so no-one knows. That is quite a huge chunk of the waste. You run so many of these facilities in Europe. In Europe do you have to stipulate the character of this waste or can you get away with saying that 20 per cent will be "other"?

Mr TAYLOR: Generally the waste is not characterised beyond a very broad description of commercial, industrial or municipal waste. It would exclude various waste streams—for example, medical and clinical waste and hazardous waste streams. It would specifically exclude those categories. The regulations across Europe do not look at the specifics in terms of what is in a waste stream other than that. Regulation is more focused upon the back end end, predominantly the emissions to air. If that is well regulated and monitored, as it is, and is proposed to be, in New South Wales, then the categorisation of what is coming in the front end should not be a concern.

Dr MEHREEN FARUQI: We heard a lot today about the social licence to be able to build and operate the schemes. Does that sort of social licence work in Europe, as well?

Mr TAYLOR: Absolutely. The planning challenge in Europe is perhaps no different to the challenge here. It is long and protracted and you have to get the community on board.

Dr MEHREEN FARUQI: Would you support no private or otherwise government planner or operator being able to build these facilities without the community being on board?

Mr TAYLOR: I think it is the role of local government to determine what they want and, ideally, where they want it and for it to be a joint approach to community consultation in terms of delivery of the facility and satisfying the public that this is the most sustainable, the most environmentally sound, solution for their waste.

The Hon. SHAYNE MALLARD: We have heard from various witnesses today that the regulatory and planning framework around waste recycling in general, and not just waste energy, needs to be tightened and

more certain to attract investment in New South Wales. As one of the biggest operators in our city, what is your view of the regulatory and planning framework in which you operate?

Mr TAYLOR: The planning framework is difficult, as you heard during the course of today. I will give you an example that is relevant to Veolia. We operate the Clyde waste transfer terminal and the Banksmeadow waste transfer terminal, both feeding Woodlawn, as a landfill and now our mechanical and biological treatment [MBT] plant. Clyde took eight years through the planning process to get an approval for a waste transfer station. It required an Act of Parliament to get that through. That was at the time when WSM were managing all of the putrescible waste in Sydney and we were in a monopoly situation, I suppose, going up against a government-run organisation.

We opened Banksmeadow in July last year. That took three years in the planning process, but that was on the back of a long-term contract with the Southern Sydney Regional Organisation of Councils [SSROC] for the treatment of their waste through the MBT at Woodlawn. It was a waste delivery point predominantly for five of the eight SSROC councils. It took three years because we had the support of the local councils in the area, and that is effectively what you need to deliver a good outcome.

The Hon. SHAYNE MALLARD: Eight years is extraordinary. Are there too many layers of decision-making? I know you have to get approval from the EPA, the council, the planning panel and on it goes, and that the EPA requires an infrastructure strategy. To have a strategy you need to back it up with a support policy.

Mr TAYLOR: Some of it has been touched on today in terms of a planning framework around waste or planning for waste and where these types of facilities are located. From a strategic point of view, we are looking at need but I am aware that the New South Wales Government is going through the infrastructure waste infrastructure review, which should be published soon and should set a framework around what Sydney needs and when. The planning piece comes back to support specifically from local government and the local community in which it is operating. That effectively makes the process a lot more streamlined and straightforward. Without that support, it is a challenge.

The Hon. SHAYNE MALLARD: I turn to the your assertion of the perverse outcomes. Even if the private sector is driving recycling as opposed to government driving it, the Government is still a major player because of the levy. The strategy around the levy has meant that the amount of waste going to landfill has dramatically changed in the last decade. I want to give an alternative view, and I am not advocating this for that particular project. You suggest it is a perverse outcome, but the operator is taking the risk. The operator will knock you guys out of the game because of the big plant being proposed, and I know you are building a plant of a similar size in Mexico. I do not believe that it is fair to say that it is a perverse outcome—in my view it is the market and they are providing the capital and taking the risk. Do you still think it is a perverse outcome?

Mr TAYLOR: It depends from whose perspective. Yes, a large plant delivers economies of scale and a reduced price for waste disposal.

The Hon. SHAYNE MALLARD: And the first mover's advantage in terms of market.

Mr TAYLOR: And the first mover's advantage. Is that with the community in Western Sydney wants? Is that what is right for Sydney in terms of the management of waste? I would question that. The larger facilities that are built are generally built in far more high-density cities than Sydney.

The Hon. PENNY SHARPE: The density of Mexico compared with Sydney is quite different.

Mr TAYLOR: They would be very, very different, but I could not put a number on it.

The Hon. SHAYNE MALLARD: Should the New South Wales Government set the locations and also the size? We heard from New Energy that the size is manageable.

Mr TAYLOR: I would certainly agree with that view. Energy from waste plants are generally constructed in streams. They can be of various sizes depending on how small or big you want to go, and they can be built in stages.

The Hon. SHAYNE MALLARD: What is the Government's role to try to prevent a perverse outcome?

Mr TAYLOR: From a planning perspective, size is important because a larger facility will inevitably draw waste from a significantly expanded catchment.

The Hon. SHAYNE MALLARD: A lot more truck movements.

Mr TAYLOR: Yes, a lot more truck movements. That is obviously part of the consideration through the planning process, as is the specific local emissions impact of a larger facility. I guess those two things would be picked up through the planning process by the regulator. Again, it comes back to a monopoly situation potentially, which is not a good outcome. I appreciate there is a duopoly effectively in New South Wales for putrescible waste at the moment. Another reason for that is the challenge in developing any infrastructure, the cost, expense and time taken to do that. It would be a particularly brave company today to plan for another putrescible waste landfill in Sydney with the levy at the current level and the messaging coming back from government that we want diversion from landfill.

The CHAIR: With your great experience, do you think we should ask you about anything else that we should consider in this inquiry?

Mr TAYLOR: Off the top of my head, I am not sure. If you have any questions at the end of the inquiry, you are welcome to ask me.

The CHAIR: I know Veolia has been a large player in the New South Wales waste stream and your time is important. I notice that you have made comments about the situation in Queensland, which probably reinforce your comments about the waste levy and its policy settings being not helpful to the cause. Is that your perception of the waste levy with so much of New South Wales' waste going to Queensland? Is it a better deal for the companies concerned?

Mr TAYLOR: It is not helping the cause. Veolia is one of a small number of companies within New South Wales that are not participating in that for sound environmental reasons. It does not make any sense, but we are finding it challenging to compete in predominantly non-putrescible waste, which is moving in that direction. We are finding it increasingly hard to compete with everybody else that is currently sending waste Queensland. It is certainly stifling investment in future recycling in New South Wales. Veolia have planning approval for a commercial industrial recycling facility out at Camellia, 150,000 tonnes a year. We are looking to produce recyclables from commercial and industrial waste and potentially a refuse-derived fuel [RDF] or a solid recovered fuel [SRF]. There are significant question marks over being able to do that in the current environment simply because the cost of the waste in the Queensland solution is that it is too low to drive recycling.

The Hon. JOHN GRAHAM: When you say it is moving in that direction, is it likely to get worse and not remain at the same rate? Is that your view or do you think it is stable at the moment? We heard nearly 700,000 tonnes per annum—

Mr TAYLOR: Nearly 700,000. It did drop off significantly with the introduction of the proximity principle and the threats of prosecution, but once that was flagged as being withdrawn it immediately jumped back up again.

The Hon. PENNY SHARPE: It looks like it is on a climb.

Mr TAYLOR: It moves through a combination of road and rail through the intermodal system out of Sydney. So it can go up by both methods. Will it grow further? If nothing is done, potentially yes.

The CHAIR: If you are a business trying to cut your costs it is a fair thing to consider what is happening though, is it not? It is not unreasonable?

Mr TAYLOR: It is, and some of the companies that are doing this are doing this reluctantly and have made that point very, very clear.

The CHAIR: It would be worthwhile the Government going back to the drawing board on the price of their levies and how they are implemented? I think you said that in your opening comment.

Mr TAYLOR: I think that is a challenge for New South Wales to look at reducing the levy, because it does drive better environmental outcomes. It is all about Queensland introducing a levy.

The Hon. PENNY SHARPE: I am interested in your submission on page 11 where you talk about the establishment of need, the need for energy from waste. I just wanted to explore that with you. I think that the recommendation says that the EPA needs analysis to be published as it considers it to reinforce the point that size is a major consideration in the development of waste infrastructure and, further, the requirement for need to be part of the New South Wales policy considerations. When you say that, you are not just talking about energy from waste; are you talking about waste infrastructure generally or are you talking specifically in relation to energy from waste, that the actual need has not been demonstrated yet?

Mr TAYLOR: I was talking about waste infrastructure generally. I am no planning expert but, as I understand it, previously within New South Wales within the planning framework of legislation that exists, there was a requirement to demonstrate need for a facility, but I no longer believe that is the case.

The Hon. PENNY SHARPE: No, and that is the whole issue with it being market-led rather than government very hands-off.

The CHAIR: I thank you, Mr Taylor, for coming forward this afternoon and giving us some evidence. Your submission is really helpful as well. You have taken some questions on notice. The secretariat will help you out with that. You have 21 days to answer those and we may put some further questions to you in light of your evidence. Thank you for your time. Maybe we might be in touch for a tour of one of the facilities.

Mr TAYLOR: You are more than welcome. Thanks for the opportunity.

(The witness withdrew)

(The Committee adjourned at 16:43.)