

REPORT ON PROCEEDINGS BEFORE

**LEGISLATIVE ASSEMBLY COMMITTEE ON TRANSPORT
AND INFRASTRUCTURE**

**INFRASTRUCTURE FOR ELECTRIC AND ALTERNATIVE ENERGY
SOURCE VEHICLES IN NSW**

At Jubilee Room, Parliament House, Sydney, on Friday 7 November 2025

The Committee met at 9:00.

PRESENT

Ms Lynda Voltz (Chair)

Mr Nathan Hagarty (Deputy Chair)

PRESENT VIA VIDEOCONFERENCE

Mrs Judy Hannan

Mr Ray Williams

Mr Warren Kirby

The CHAIR: Good morning, and welcome to the fourth public hearing of the Committee on Transport and Infrastructure for the inquiry into infrastructure for electric and alternative energy source vehicles in New South Wales. Before we start, I acknowledge the Gadigal people of the Eora nation, who are the traditional custodians of the land on which we meet here at Parliament. I pay my respects to Elders, past and present, and extend that respect to other Aboriginal and Torres Strait Islander people who either are present or are viewing the proceedings online. I'm Lynda Voltz, Committee Chair and member for Auburn. I'm joined by my colleagues Mr Nathan Hagarty, member for Leppington and Deputy Chair of the Committee; Mrs Judy Hannan, member for Wollondilly; Mr Ray Williams, member for Kellyville; and Mr Warren Kirby, member for Riverstone. We thank witnesses who are appearing before the Committee today and the many stakeholders who have made written submissions. We appreciate your input into this inquiry. I declare the hearing open.

Mr JUSTIN OLIVER, Deputy Chair, Australian Energy Regulator, sworn and affirmed

The CHAIR: I welcome our first witness. Thank you for appearing before the Committee today to give evidence. Please note that Committee staff will be taking photos and videos during the hearing. The photos and videos may be used for social media and public engagement purposes on the Legislative Assembly's social media pages, webpages and public communications material. Please inform the Committee staff if you object to having photos and videos taken. Can you please confirm that you've been issued with the Committee's terms of reference and information about the standing orders that relate to the examination of witnesses?

JUSTIN OLIVER: I have.

The CHAIR: Do you have any questions about that information?

JUSTIN OLIVER: No, that's fine.

The CHAIR: Would you like to make a short opening statement before the commencement of questions?

JUSTIN OLIVER: I do have an opening statement. It's a little lengthy, so we have provided it to the Committee, and I'm content for it to be tabled if that would be the Committee's preference. Essentially it just is an update on a number of decisions we have made since we made our submission in May. In the May submission we referred to an application to grant a ring-fencing waiver to a number of Victorian networks to roll out a trial of electric vehicle (EV) charging. We have since made that decision. We granted that waiver in October. Since then we've also put out a draft decision on the regulation of the Victorian networks where we have proposed to regulate access to poles for electric vehicle charging as a negotiated distribution service. The opening statement elaborates on a number of those matters. If the Committee's content, I'm happy to table that and answer any questions you might have.

The CHAIR: Certainly. We'll take that document and consider it in the deliberative later on. We'll go to questions. We had a look at the ARENA project that is being run by Essential Energy out of Dubbo. Are you aware of that project?

JUSTIN OLIVER: Not specifically. I suspect someone at the AER is, but I can't necessarily give you details about it right now.

The CHAIR: Essentially it's a trial of 300 poles, with embedded infrastructure within the poles, that they are rolling out as part of a consideration across regional New South Wales, is my understanding. We'll move to questions from Mr Hagarty.

Mr NATHAN HAGARTY: I'd like to unpack that decision you've made in Victoria a little bit more; obviously it's a big issue that this inquiry is looking at. I want to get the reason the AER made that decision and whether there are any pertinent differences between the situation in Victoria and the situation in New South Wales.

JUSTIN OLIVER: Do you mean the ring-fencing waiver for the Victorian networks?

Mr NATHAN HAGARTY: Yes.

JUSTIN OLIVER: The three networks are CitiPower, Powercor and United Energy. They all have the same parent company, so we refer to them collectively as CPU. We have granted a ring-fencing waiver that will permit those businesses to roll out up to 100 electric vehicle chargers, essentially as a trial to seek to learn how those chargers operate, what effect their operation has on the distribution network in the locations where they're situated and how they can be used, essentially, to provide EV charging services. The reason the waiver is necessary is because under our ring-fencing guideline, which is essentially a rule, networks both in Victoria and New South Wales are not permitted to vertically integrate into that sort of competitive market. It's not a network service, so they need a waiver to do that. The reason we granted the waiver in this instance is there are arguments for and against allowing networks to integrate into that space to operate services in that area.

But there are things that we still don't fully understand that we think perhaps the networks don't fully understand. There are opportunities to see how that can be used to help deal with perhaps network constraints to absorb load in those networks, and that might mean a network can be operated more efficiently and more effectively. We want to see what it means to roll out chargers in particular areas and, when they're being utilised, what that does to load, what that does to consumption and demand, and what effect that has on the network. So we've attached a number of conditions to that trial to try and make sure we capture and publish those learnings. The networks will be required to report on how the chargers operate and what effect it has on the network. We will require them to locate those chargers in areas where there are network constraints. Then at the end of the trial, the networks are going to have to either sell or divest themselves of those assets or decommission them, or seek a

further waiver if the trial is to continue. So it is limited. It is very much on a trial basis to try and learn more about how those assets can be used effectively.

Mr NATHAN HAGARTY: Essentially it's a trial, and it may have learnings for the situation here in New South Wales. Is the view of the AER that there are counter arguments for and against, which this inquiry has heard, and that this is a way to potentially resolve some of those arguments?

JUSTIN OLIVER: That's essentially correct. The current position certainly reflected in the ring-fencing guideline is that networks are not permitted to operate that kind of EV charging infrastructure without permission. That reflects the underlying rationale of the ring-fencing guideline, which ultimately is to protect consumers by protecting competition. The networks are natural monopolies. They don't face competition in relation to their network services, so we have these rules to prevent them integrating into competitive markets, particularly those markets that require use of the network. Obviously, in that situation, if they were competing in those downstream markets, they would have an ability and an incentive to potentially give themselves a competitive advantage over other access seekers, other users, of the network. EV charging is one example.

The starting point is to say we don't permit it, but we have the ability to waive that restriction. It's essentially a public benefit test, balancing pros and cons of requiring compliance with the guideline versus waiving it. In this instance, where it is limited and where there are opportunities to learn more about the opportunity and about the potential benefits or uses of EV charging, both for customers and for the network, we decided, on balance, that there was a case there to grant that waiver.

Mr NATHAN HAGARTY: I've got lots more questions, but I'm mindful of time.

Mr RAY WILLIAMS: Following along, Mr Oliver, with the question from my colleague in regard to the waiver that you've offered in Victoria, perhaps you might give an overview, first and foremost, of why the ring-fencing regulations are important and why they are in place in New South Wales and across Australia, just to give some context to that, because I failed to pick up exactly whether there's not enough providers and that's why the waiver has been lifted or that's why the waiver has been offered in Victoria. I'd like to compare that, if we can—New South Wales and Victoria—if that's apples with apples.

JUSTIN OLIVER: Certainly. There are certainly similarities, I think, between the two jurisdictions. I think that's an important point to start with. What is happening in Victoria and what we've decided in Victoria is going to be potentially relevant and informative for other jurisdictions and, obviously, that includes New South Wales. In terms of the rationale, as I mentioned, the ring-fencing guidelines have been around for a very long time—really since the rules were established—and they exist to protect competition in competitive markets. The electricity networks—the transmission and distribution networks—really are the backbone of the electricity system, but they're natural monopolies. Network operators don't face competition, and they're not likely to. We're not going to duplicate any of our electricity networks anytime soon.

In relation to those network services, that obviously gives them an ability to, like any monopolist, charge more or perhaps curtail services if they were of a mind to do so. So we regulate those networks quite carefully in terms of what they're allowed to charge, in terms of the services they have to offer and in terms of how they deal with people who use those services. That's part of the equation. But then we also have these ring-fencing rules which limit their ability to expand into competitive markets. For example, if a transmission network service wanted to build a generator, the generator needs access to the network. A transmission network in that situation could give themselves favourable access. That gives them an unfair competitive advantage. The ring-fencing requirement would say that that would not normally be permitted.

Downstream you've got distribution networks who might want to provide services, in this case an EV charger. It could be something else. It might be a community battery, for example. But in the case of an EV charger, again, that's a service—EV charging—that could be provided competitively. It's not a network service. The starting point is that we would not permit them to do that without permission because there is the potential for a competitive market to operate, and it reflects the underlying rationale that competition is still the most effective way, we think, to put effective incentives on businesses to operate efficiently, and to operate in the interests of customers. It's ultimately the most effective way to promote the long-term interests of consumers of energy services. We need to make sure that those competitive markets are protected from network services. That's the argument for keeping them out, and that's the rationale for the ring-fencing guideline that we have.

Electricity is complicated. Electricity systems are complicated, and as the transition proceeds and we see the electrification of transport, for example, there are additional things that need to be understood about what it means to change the utilisation of the network. Sometimes it's a good opportunity when you can install charging in a network to soak up more supply, particularly in the middle of the day. That can actually ease the burden on the network. It can make it more efficient. It can reduce the need for capital expenditure et cetera. There is a case

to permit networks to do it. There is also the argument about the timeliness of the rollout; what's the fastest way to get EV infrastructure installed to make it available to consumers?

Again, that's a debate that is playing out at the moment. Is it best left to the market? Should the networks be allowed to do it? Our current guidelines say we still want to see a competitive market there, but we want to trial it and see how it would look if a network was involved in installing the chargers. I should add, in the case of CPU, the waiver says they can install and own the chargers, but the model that those three networks are proposing would involve leasing those chargers to service providers, who would then be dealing with customers.

Mr RAY WILLIAMS: I was just going to go a little bit further in relation to that. Firstly, is there a time limit that has been set on the trial? You'd hate to see a waiver stay in place just because 98 per cent of it was achieved and the waiver still exists and you're cutting out some potential competition that could enter into the market. While that waiver is in place, is there still the potential for other competitors to come in, offer services and still compete and provide services in that particular State?

JUSTIN OLIVER: The answer to the first question is yes, there is an end date. The waiver is granted until 30 June 2031. That's just over five years. That aligns with the end of the next regulatory control period for the Victorian networks. We're in the process of making the decision for them now. Their next period begins in the middle of next year. It goes for five years, and that's when the waiver will come to an end. As to your second question—absolutely. It's only up to 100 chargers, and it will be in a relatively small number of locations. Even in those areas, third parties can still install chargers and, around the rest of the State, yes, that would be permitted.

That goes to the second point about regulating access to poles. Right now, or at least until today, access to power poles to install the charger has been classified as what's called an unregulated service. Essentially, it has not been regulated. We've put out a draft decision proposing to regulate pole access across Victoria for all of the networks there so that a third party who wants to install a charger has to negotiate terms of access with the network to utilise that pole. There'll be a charge; there'll be other terms. This gives us the ability to essentially resolve disputes if the parties can't come to agreement about the price or other terms and conditions on which that would be permitted. That's if we lock that in in the final decision. We won't make that until the first half of next year.

Mr RAY WILLIAMS: That's good, and I appreciate the answer to that. It also alleviates the problem that the network service providers don't have unfettered access to a pole, and that's restricting chargers being fitted there anytime in the future, with the unknown and the unavailability of other competitors being able to do that. You've answered that question. You are going to have oversight over that, and that will all go into your review, I imagine?

JUSTIN OLIVER: That's correct. Actually, that's a very important point, sir. We will be starting a review shortly of our distribution ring-fencing guideline. These issues that are being debated at the moment will almost certainly form part of that review as well, to see whether the current settings need to be modified more generally.

The CHAIR: Can I follow up on some of the things that you were talking about there. I appreciate that you don't know the Essential Energy ARENA project that has been funded by ARENA, but it sounds almost the same as what's happening in Victoria, where it's 300 poles. The actual charger is embedded in the pole. There's no external box or anything—that's the view. You might want to take this on notice. There is a CPO (charge point operator) that gets leased that facility, but I didn't get the impression on that one that there was an end date. Could you go back and have a look at that on notice and come back to us with whether it's similar to what's happening in Victoria? I know there are regulations around the servicing of the chargers themselves, where Essential Energy doesn't service them, but these ones will be embedded in the poles. Could we clarify what the regulations are around that? There must have been a waiver of some sort issued to allow them to insert those in the poles.

JUSTIN OLIVER: That would almost certainly be right, Chair, and I'm very happy to take that on notice. I suspect there is someone in the AER who is across that. I'm afraid I haven't been briefed on it. I do apologise. One prepares, and I thought I'd covered it all. I'm very happy to take that on notice. It is a scenario which, on its face, would require some sort of waiver from ring-fencing requirements in order to be allowed to do that. We would consider similar sorts of issues. What are the benefits in allowing a trial like that to proceed? Three hundred is bigger, obviously, although Essential Energy is a very large network. So where, why, what are the locations, and what are the other terms and conditions are things we would look at. Then, if they were also maintaining those assets, that would perhaps be something that has to be part of a waiver as well.

The CHAIR: One of the things we picked up is that it's a very competitive market in the city, of course, but once you start getting to more remote and regional communities, it's more difficult. That presents a problem in New South Wales, particularly where you have highways, like the Newell Highway in places like Dubbo, where there are a number of options; there are a number of ports, of course. We've got ports at Wollongong and

Newcastle, and obviously Port Botany. Sydney is a congested market to bring trucks through. When the energy regulator is doing its review, how are these things being factored into, for example, getting across from Newcastle to Dubbo? There is probably one charger, and people are diverting to get to it because there's nothing on the way, which would limit the uptake of electric vehicles in those regions, as opposed to the Dubbo to Sydney route, which is well serviced with a lot of fast chargers.

JUSTIN OLIVER: Yes, that's a really important point. If I could refer to a decision we made in relation to SA Power Networks (SAPN) when we did the South Australian decision earlier this year. SAPN asked the AER to classify a new type of distribution service, which means they would not need a ring-fencing waiver, which they described essentially as a charger of last resort. It was designed for areas similar to perhaps the Essential Energy network, where in regional areas there's less potential for competition but the need to try and roll out this sort of infrastructure, suggesting in that situation that the monopoly network would be permitted to do that.

Our decision was to say, "We're not going to classify that as a distribution service, mainly because we want to continue to deal with that under our ring-fencing regime." But we made it equally clear that we were open to considering a waiver in that very situation, if you had an area where perhaps competition was not going to be as robust because it was a remote area, for example. I can absolutely see how that might be the case for parts of Essential Energy's network. That is a reason why there might be a public benefit in permitting the distribution network service provider to own and operate, install or lease chargers, precisely because they're not going to get rolled out in any other way. It's obviously a case-by-case assessment, but that's the kind of thing we would certainly give weight to.

The CHAIR: We were certainly getting that impression from local councils. Personally, I thought they were the right people to decide where they were unable to provide these. Cobar and Warren shires, particularly, were very keen on the council being able to work with someone because of their inability. When you're talking about not just heavy vehicles and agricultural vehicles in their areas and where they're doing shared agricultural pickup, but also where they're doing a lot of tourism—the grey nomad trail, where they go up through Broken Hill into Cobar and across—these are areas that they really need to start picking it up to ensure that they get that extra mileage so that people come into their communities.

JUSTIN OLIVER: I certainly agree. I think local councils have a really important role to play in identifying those areas of need and understanding what conditions are like on the ground.

Mrs JUDY HANNAN: Nearly all of my questions have been asked and answered. They were about the rural and remote areas, after what we saw this week. Thank you.

Mr NATHAN HAGARTY: Changing tack a little bit, do you have any opinions or any thoughts on the current reporting and disclosure requirements by the DNSPs at the moment? This area is changing very quickly. Do we need to update those? Are the processes and mechanisms in place to change those as agile as they need to be?

JUSTIN OLIVER: That's a good question. We certainly do have requirements on the networks to provide a great deal of data to the AER about how much they're spending in providing their network services. They have to provide annual returns to us, which set that out in quite a bit of detail so that we can see how they're performing against the regulatory controls that we set. We analyse that data. We produce a report. There's always quite a significant lag between the end of the financial year getting the reports in, analysing the data, producing the reports et cetera. We do quite a lot of reporting on the performance of the networks, both in terms of financial performance and also operational performance, because we operate a series of incentive schemes, which are designed to reward or penalise performance, both in relation to service quality but also financial performance and efficiency—are they spending more or less than the allowances that we have set?

I would not necessarily characterise those schemes as agile, because they are long-established and very detailed reporting rules. We don't change them too quickly, because that always comes at a cost, but we do have the ability to review them, and we do that sometimes. They are quite detailed. It's a reasonably heavy-handed set of reports that we require. But again, we're focusing on what they're spending; we're not necessarily—that sits alongside other reporting obligations they might have about their financial performance to the market, for example.

Mr NATHAN HAGARTY: We've heard evidence previously about, potentially, cross-subsidisation. You spoke earlier about the need to protect consumers and encourage competition. Perhaps some tweaks or some additional reporting obligations would be able to give the market confidence that these kinds of things aren't happening, or if they are, they would be made public through the reporting requirements. Has there been any thought around more rigorous reporting to ensure that there is competition and we are protecting consumers?

JUSTIN OLIVER: Not so much the reporting—the reporting is seeing what is happening. We, too, have heard complaints around essentially people involved in running networks, doing services or working in areas that aren't regulated, for example—providing non-regulated services. I think it is an issue that will certainly be raised in the review of our ring-fencing guidelines as to the extent to which that should be permitted. It is permitted to some extent today under the current guideline because it's viewed as part of the efficient operation of a network. We have received, we are aware of and we are listening to concerns that perhaps that should not be permitted. Again, there will be contrary arguments; there always are. I think that is an issue that will come up there. We would see the results of that, obviously, reflected in the reporting, because that's going to put controls around, or potentially put controls around, what the network can and cannot do.

The CHAIR: One of the issues that came up—and I know that you're talking about availability of poles between the operators and the charge point operators—is the actual mapping of where there is availability on the network and the poles. A lot of the charge point operators have told us that if they could see on a map where there is capacity, rather than being told, "We don't have the capacity for a high-speed charger to go in here or there," or whatever—are there any moves towards trying to require them to map that out? I know some of the energy companies are trying to do that. Essential and a few of the others gave evidence that they were.

JUSTIN OLIVER: Visibility of network data, which might take different forms, is a very lively topic of conversation at the moment. We've been doing a series of studies around the current regime—the effectiveness of what availability there is—and right now it is limited. There is a rule change, I believe, at the moment currently before the Australian Energy Market Commission, which is designed to try and improve visibility of network data, not just for transport—although I agree that is one of the golden opportunities of essentially mapping transport corridors with network capacity. We would certainly support any moves in that direction. It's also the kind of thing we think about when we're looking at conditions that we might attach to a waiver: whether it's a sandboxing trial or a ring-fencing waiver, what opportunities are there to improve visibility of network data so that people who want to install that sort of infrastructure can easily see where the opportunities exist.

The CHAIR: The other question I have—and I'm sure you're all over it—is England has regulations around surety of service, and the service is really important because people are getting to charge points and there's no availability. Do you have a view to a model that's like the English, where you have that surety of service? Although in Australia, in terms of the size of the country, that makes it more difficult.

JUSTIN OLIVER: It's that debate, it seems to me, between competition and regulation. To what extent do we want to rely on a competitive market to meet customer needs? In theory, you would hope it would do that, and then you say, "Well, it's a much larger country and there are areas where competition is not necessarily going to be as vigorous." So is there almost some sort of community service obligation to be imposed in some locations to make charging available? We are now at the frontier of policy. The AER doesn't necessarily have a position on this, and it wouldn't necessarily be our decision. That is probably the issue that eventually we will need to get to grips with: How do we guarantee or how do we deliver the necessary level of service, both in built-up areas, where you'd rely on competition perhaps more, and in more remote areas, where it's not there. It may take the form of some sort of community service obligation. Again, if that's the case, you can potentially see the networks being quite central to that.

The CHAIR: Australia has a very slow uptake in electric vehicles, but you assume eventually vehicle manufacturers will get to a point such that that is going to be the natural progression. There are also vehicle-to-grid capabilities that vehicles are starting to have, and there is the capacity to start doing that. How do you see that impacting on the whole network?

JUSTIN OLIVER: Positively. Obviously we agree that the trend may go up or down, but over time you would expect it to go up. There's obviously a loop, in a sense, between availability of charging and electric vehicle take-up, because it increases confidence for the consumer that they're going to be able to charge their vehicle.

The CHAIR: Chicken and egg, yes.

JUSTIN OLIVER: Chicken and egg, exactly. But I think everyone agrees where the trend is going to go. The vehicle-to-grid charging presents another opportunity in terms of virtual power plants (VPP). They're essentially batteries on wheels at that point. You can see a vehicle being plugged in overnight, for example. If the customer has signed up to a VPP, there's a retailer, potentially, that can discharge the vehicle overnight, recharge it by morning and the customer doesn't even know it's happened. They receive a financial benefit; we get additional supply into the system. This is going to be a really important part of what's called the orchestration of consumer energy resources. Electric vehicles will play a really important role in that.

The CHAIR: We're out of time, unfortunately, because I suspect I could do this all day. Thank you for appearing before the Committee today. You will be provided with a copy of the transcript of today's proceedings for corrections. Committee staff will also email you any questions taken on notice from today and any supplementary questions from the Committee. We ask that you return answers to questions taken on notice and supplementary questions within 14 days of the date on which the questions are sent to you.

(The witness withdrew.)

Mr COLLIN JENNINGS, Head of Government Relations and Advocacy, Motor Traders' Association of New South Wales, affirmed and examined

The CHAIR: I welcome our next witness. Thank you for appearing before the Committee today to give evidence. Please note the Committee staff will be taking photos and videos during the hearing. The photos and videos may be used for social media and public engagement purposes on the Legislative Assembly's social media pages, webpages and public communication materials. Please inform the Committee if you object to having photos and videos taken. Can you please confirm that you have been issued with the Committee's terms of reference and information about the standing orders that relate to the examination of witnesses?

COLLIN JENNINGS: Yes, I have.

The CHAIR: Do you have any questions about this information?

COLLIN JENNINGS: No, I do not.

The CHAIR: Would you like to make a short opening statement before the commencement of questions?

COLLIN JENNINGS: Yes, I would. Thank you for the opportunity to appear before the Committee today. The Motor Traders' Association of NSW appreciates the invitation to contribute to this important inquiry, specifically on the automotive workforce, its readiness, capability and the support required to meet the rapid transition to electric vehicles. The Motor Traders' Association of NSW (MTA NSW) has represented the automotive industry since 1910, supporting more than 3,000 businesses across the State and employing over 30,000 workers, including mechanical and body repairers, auto electricians, vehicle dealers and specialist service providers. Throughout our history, MTA NSW has worked to ensure that the State's automotive professionals are equipped with the skills, safety standards and technical knowledge needed to serve the motoring public.

The transition to electric vehicles represents the most significant transformation the automotive workforce has faced in a century. According to the latest Federal Chamber of Automotive Industries (FCAI) VFACTS data released yesterday for October 2025, battery electric vehicles accounted for 7.3 per cent of all new vehicle sales nationally. New South Wales now has over 98,000 registered battery electric passenger vehicles. This rapid increase underscores the growing need for qualified technicians who can safely service, repair and support these vehicles.

MTA NSW has consistently advocated for targeted programs to upskill and reskill automotive technicians in preparation for this shift. Through our registered training organisation, we deliver accredited electric vehicle training designed to meet national competency standards. These programs ensure technicians, whether in metropolitan Sydney or regional New South Wales, have the skills and confidence to work on battery electric vehicles safely and effectively. The automotive workforce in New South Wales is committed and capable, but continued support and coordination are essential. Ongoing investment in skills development and equipment and safety training will ensure that no part of the industry and no region of the State is left behind as vehicle technology evolves. Thank you once again, and I'm happy to take any questions.

The CHAIR: I think these are some of the issues that we canvassed as well the other day. I'll start with the Deputy Chair, Mr Hagarty.

Mr NATHAN HAGARTY: In your submission you essentially called for consistent incentives and subsidies. I just want to get your feedback on where there are current issues and gaps in relation to incentives and subsidies and where that can be improved.

COLLIN JENNINGS: I can start with training for the industry. One of the things that we mentioned, and we continually mention, is that, in the transition to battery electric vehicle technology, there is a very high need for safety training and also for upskilling of the existing workforce to service that part of the industry with battery electric vehicles. Where we currently sit at the moment, and there is work being done with the New South Wales Government around training, is the provision where the upskilling of the workforce is provided onto the skills list and, therefore, is funded by the New South Wales Government, as a lot of work is done now through apprenticeships.

That work is being done. The issue there is around licensing of the repair class. The way that the system works in New South Wales is once the repair class—and there will be a repair class for EV. Once that is approved by Fair Trading, then the Department of Education can release funding into the system. Currently, training is being funded out of the pockets of business, specifically small businesses, to do safety training and upskill training either with ourselves or with TAFE NSW. That funding requirement from government is a big part of what we're looking for so that we can train the workforce up to that safety level that's required and the knowledge that is

required so that we can have more technicians servicing more vehicles. Once that work is done, we can move on, and that wouldn't be an impost to small businesses.

Mr NATHAN HAGARTY: Essentially what's holding that up is good old-fashioned bureaucracy and getting the tick off from Fair Trading?

COLLIN JENNINGS: It's not so much bureaucracy. There is further consultation going on. There are questions around transition time and how we work that licensing regime out with the New South Wales Government, and we're very actively involved in that discussion. We're hoping that that will come to fruition sooner rather than later from an industry point of view. In terms of other incentives, there are a lot of incentives that would be required for workshops in dealing with battery electric vehicles such as tools, safety equipment, shields, PPE such as gloves, covers for vehicles if they catch on fire, hoists—all those parts of the equipment because they are different equipment to standard automotive work. Battery electric vehicles are generally heavier, so they need different hoists. There are incentives that would be required, and we have advocated quite a bit in our budget submissions to the New South Wales Government and the Federal Government that to roll this out would require, or should require, some assistance, especially to small businesses so that they can ramp up their workshops to take electric vehicles when they arrive, because in the current situation that is an expensive overhead for them.

Mr RAY WILLIAMS: Mr Jennings, thanks so much for appearing. If you just bear with me for a moment, I just want to put some context around this question. Having been involved in the heavy vehicle repair industry myself for 22 years before becoming a member of Parliament, I've long advocated on behalf of the appropriate repair not only for heavy but also light vehicles. Through my insistence and under the former Liberal Government, with the support of a previous roads Minister Melinda Pavey, we introduced a heavy vehicle written-off vehicle register, as you would be aware.

Your suggestions that EV technicians have their own occupation classification in regard to repairs on electric vehicles could never be truer and it is totally supported. But at the same time there will be stark differences and inherent dangers present which will escalate with any repairs on heavy vehicle electric motors given the size of the batteries and the motors and every other corresponding piece of technology. Therefore, I would ask you, one, with your independent classification for EV technicians, would you also advocate and support that you also have independent qualifications for the repairs of light vehicles and heavy vehicles, regardless of whether those repairers are working on electric vehicles or not? I think it plays into the future safety and quality of repairs that will be delivered, especially as we get to a more electric, I suppose, continuation and rollout of vehicles across this State and this country.

COLLIN JENNINGS: Yes, we're aware of your very long history in advocacy for the heavy vehicle sector before you went to Parliament and continuation through it, and certainly from the automotive sector we thank you for your advocacy work there. In regard to heavy vehicles with the licensing class determined by Fair Trading, there is just the one classification, battery electric vehicle. Primarily that will be around light vehicles. The training packages for depower and reinitialise, and service and diagnostic work are not really separated, to my knowledge. I can take that on notice and provide you with further details from our training department on that—are not really delineated between light and heavy vehicles. Because the majority of skill set 64, which is the additional skill set required to upskill—specifically 60 per cent of it is around safety. It is about safety.

The other component with that is also to make sure that the workshops are working within the new Australian Standard 5732:2022, I think it is, which was updated by Standards Australia to make sure that those workshops are working within that framework so that they have the right equipment, they have the right matings on the floor, they have the right tools in place, they have the right safety clearance and signage on vehicles. But please let me take the remainder of that question on notice, because I would like to provide you with detail around the heavy vehicle repair. We're very conscious that heavy vehicles are part of the new mix. Our conversations with other organisations like the heavy vehicle industry association around the uptake of heavy vehicles in battery electric certainly raise our awareness as the industry association on what will need to be done. As you would be aware, we're not the manufacturers; we're the repairers of the heavy vehicles. The service and maintenance and body repair of heavy vehicles would fall under our remit. If I can take that on notice, I'll give you a far more detailed written response to that.

Mr RAY WILLIAMS: That would be great. How involved are the MTA in the support of training and equipping workers with the skills that are required for repairs on electric vehicles?

COLLIN JENNINGS: Very. We have been training the workforce for several years now. We were one of the first RTOs in the State to actually import in training equipment from overseas to start training the workforce. To date, we've trained around about 800 technicians to upskill. That's in the safety component, which is 101, and in skill set 64. We continue to train in our specialist training centre in Auburn, which we took control of last year.

We're very heavily involved. We are very heavily involved in the construction of skills. We sit on AUSMASA's jobs and skills council. We work with the regulator. We work with Fair Trading. We talk to services. We are heavily involved, because we saw several years ago that there would be a need for the workforce to be skilled and trained, because, while the uptake of vehicles and the purchasing of vehicles was front and centre, we could see that at some point vehicles will run out of warranty, vehicles will be involved in motor vehicle accidents, that the aftermarket part of the industry will certainly need to be upskilled. We've been very, very heavily involved in that and will continue to be so.

Mrs JUDY HANNAN: With the training, just to clarify for me in light and heavy vehicle—we talked to TAFE the other day. What are the training systems that people can come through to get the appropriate training?

COLLIN JENNINGS: The training systems, I'm sorry, in terms of enrolment?

Mrs JUDY HANNAN: Does everybody go through TAFE or are there some that are run by the industry? How do they get their qualifications and through what process?

COLLIN JENNINGS: Thank you for the clarity on that. I appreciate that. We are the industry registered training organisation, so there is a choice for the workforce to make. They can go to TAFE. I imagine TAFE would have explained to you that Wetherill Park is now up and running and that they're updating and upgrading their facilities at Ultimo TAFE to bring in more electric vehicle training. The process is that businesses or technicians can either go to TAFE or they can come to us. Slightly different methods—although TAFE is taking this up. In terms of safety training, which is a one-day safety training course, we deliver that onsite, so we can actually go onsite to deliver that training. I believe TAFE is now doing that as well. Rather than having people, especially in regions, go en bloc onto a TAFE site, that safety training can be delivered at the workshop or at site. So there are several avenues, either through TAFE or through ourselves.

Mrs JUDY HANNAN: So regional and remote areas do have the opportunity to get training? Because they are out there and there's not so much—I guess TAFEs out in that direction will start to run those courses as well?

COLLIN JENNINGS: Correct. There is a difference between the safety course, which we believe is required for anyone that works on an electric vehicle—and that's what's called a depower and reinitialise. Essentially in very basic terms—like for myself—that's turn the battery off and turn it back on again. That allows for work to be done on the vehicle in a safe manner. That can be delivered onsite. To upskill for an existing, in this case, let's call it a mechanic to upgrade themselves to service and do servicing and diagnostic work is a three-day course, and that's delivered either by TAFE or by ourselves. That can be a little bit more complex because of the equipment that's required for that three-day course. But as you say and rightly note, and with our understanding of TAFE, they're rolling out centres where that can be delivered. That's because TAFE has obviously a very large budget. We are also speaking with the New South Wales Government about how we could potentially be more mobile in that three-day training for the regions as well, so it's on the scope.

Mrs JUDY HANNAN: And that'll be the same for light and heavy vehicle?

COLLIN JENNINGS: As I mentioned before—and taking on notice with the batteries—the requirements for the batteries are no different. They're the same batteries; it's just bigger batteries in heavy vehicles than they are in light vehicles. But I will provide the Committee with a more detailed response by taking this on notice when I go back to the training department, who can provide if there's any significant differences between heavy vehicle and light vehicle in that training.

The CHAIR: A quick question that did come up is one of the issues is about vehicles actually need to go back to the dealership—that's part of warranty and a whole range of things. And obviously if you're in Sydney, that's not an issue. But once you get to the bush, as you know, a lot of vehicles have whole parts that go in and mechanics can't necessarily do that. How are you resolving that with electric vehicles? Because BYD it seems to be that local mechanics could work on it, whereas Teslas, you couldn't. There seems to be this disconnect between different distributors.

COLLIN JENNINGS: Correct. And that's really up to the manufacturer at this point while the vehicles are still under warranty. We do know that, for example, with Tesla, the vehicle needs to go back to base or back to the workshop where some manufacturers will do their own what they call the OEM training—manufacturer training—to the dealership so that they can repair or undertake work at that dealership. In the case of BYD or Kia or Hyundai, for example, that have battery electric vehicles, the manufacturer will train the workshop at the dealership to do any work just on that vehicle. So if it's a Kia workshop, they will work only on Kias; they're not trained to work on a BYD. They need to do another set of training under the OEM because all OEM training packages are different, in that case.

That does raise issues. Part of the reason that we are advocating for the upskilling of the industry as a whole to the national standard, the Australian Qualifications Framework, level of skill set 64, which is to do diagnostic work, is specifically for regions. We see that—and it was mentioned earlier with another witness, and you mentioned grey nomads and travellers—while the concentration of electric vehicles may be in metropolitan Sydney, people travel and things happen on the road. When those things happen on the road, the consistency—

The CHAIR: You need people to be able to fix them.

COLLIN JENNINGS: You want to be able to go to a workshop and have that vehicle looked at. That would be the thing you do, rather than having to stop, having a tow truck pick it up and take it all the way back to Sydney or Newcastle, or Wagga Wagga if you're in Cobar.

The CHAIR: The other question I'd like to ask is about hydrogen vehicles. I know it's still a niche market that's coming in, but there is a view that there's a big hydrogen provider in Wollongong and that, with heavier vehicles, there may be a shift towards hydrogen. How is the MTA looking at hydrogen and training for hydrogen vehicles?

COLLIN JENNINGS: It's very early days in terms of training because, as you say, it is still quite niche. We know that Hyundai has been doing a lot of work around hydrogen vehicles in Sydney, and obviously Toyota is very focused on hydrogen. The full training package is still being developed, around hydrogen. In terms of training, those packages are still being developed. We're inputting into that training package. We do see that the first logical iteration for hydrogen will probably be in heavy vehicles. Batteries do weigh, and there is a payload issue, like how much can you put in the back of a truck when it's swaying?

The CHAIR: The more drag, the less kilometres.

COLLIN JENNINGS: That's right. Hydrogen can sort of alleviate some of that issue. There's been a lot of work done in Europe around hydrogen. The industry is still working through those processes of developing repair and service on hydrogen. I couldn't give you an exact timeline on when that's going to be, but it's certainly in the remit of the industry.

The CHAIR: We're just about out of time. Warren, I know you've come online. Did you have a quick question?

Mr WARREN KIRBY: No, I'm good. Thank you for asking, Chair. Most of my questions, as you know, would have been around that training space and they've been asked and answered well.

The CHAIR: Is there anything we haven't asked that you would have expected us to ask that you'd like to make a statement on?

COLLIN JENNINGS: No, I think I've been grilled. Thank you.

The CHAIR: Thank you for appearing before the Committee today. You will be provided with a copy of the transcript of today's proceedings for corrections. Committee staff will also email you any questions taken on notice from today and supplementary questions from the Committee. We ask that you return answers to questions taken on notice and supplementary questions within 14 days of the date on which questions are sent to you.

(The witness withdrew.)

(Short adjournment)

Mr PETE GATENBY, Director, Energy Management, Finance, Technology and Commercial Division, Transport for NSW, affirmed and examined

Ms BIANCA SLACK-SMITH, Director, Legislative Reform and National Policy, Safety, Policy, Environment and Regulation Division, Transport for NSW, affirmed and examined

Mr TERRY NIEMEIER, Director of Transport Electric and Safeguard Team, NSW Department of Climate Change, Energy, the Environment and Water, affirmed and examined

The CHAIR: I welcome our next witnesses. Thank you for appearing before the Committee today to give evidence. Please note that Committee staff will be taking photos and videos during the hearing. The photos and videos may be used for social media and public engagement purposes on the Legislative Assembly's social media pages, web pages and public communications materials. Please inform the Committee staff if you object to having photos and videos taken. Can you please confirm that you have all been issued with the Committee's terms of reference and information about standing orders that relate to the examination of witnesses?

TERRY NIEMEIER: Yes.

PETE GATENBY: Yes.

BIANCA SLACK-SMITH: Yes.

The CHAIR: Do you have any questions about this information?

TERRY NIEMEIER: No.

PETE GATENBY: No.

BIANCA SLACK-SMITH: No.

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

PETE GATENBY: Thank you, Chair and Committee, for the opportunity to support this inquiry. We're here today representing Transport for NSW (Transport) to explain our role regarding the infrastructure for electric and alternative energy source vehicles in New South Wales. As you heard, my name is Pete Gatenby. I'm the director of energy management at Transport. Joining me is Bianca Slack-Smith, Director of Legislative Reform and National Policy. We're also joined today by Terry Niemeier, Director of Transport Electrification and Safeguard from the New South Wales Department of Climate Change, Energy, the Environment and Water.

Transport is committed to contributing to the economic, social and environmental wellbeing of New South Wales, as you'll see set out in our 2023 Net Zero and Climate Change Policy as well as our Towards Net Zero Emissions Freight Policy. These policies set out targets to reduce our greenhouse gas emissions and are in line with State and Federal legislation reflecting Australia's commitments under the 2016 Paris Agreement. While Transport has a role to play considering the infrastructure for electric and alternative energy source vehicles in New South Wales, the accountability is shared with other State government agencies, and several key legislative controls are held by the Commonwealth. We'll be pleased to address the inquiry's questions that relate to Transport's accountabilities today.

The 2021 Electric Vehicle Strategy is the New South Wales Government's plan to accelerate the State's vehicle fleet of the future. The strategy targets an increase in EV sales to 52 per cent by 2030-31, increasing to the vast majority of new car sales by 2035. The New South Wales Department of Climate Change, Energy, the Environment and Water, which we may refer to by its acronym DCCEEW today for conversational ease, is the lead agency on that. Transport plays a key role in leading the transport sector to reduce emissions through the transition of the State's bus fleet to zero-emission buses, providing a road map to reduce emissions from the road and rail freight sector, increasing the electric passenger vehicle fleet and sourcing local renewable energy to power our electric trains, light rail and buses. I'd like to ask our colleague Terry to quickly introduce DCCEEW's work in this space.

TERRY NIEMEIER: Pete has said a lot about the background around the EV strategy. My role in New South Wales DCCEEW is to implement the vast majority of the EV strategy through a suite of programs that are designed to help accelerate EV uptake here in New South Wales. We're really committed to bringing that change to life and allowing residents of New South Wales businesses and households to take advantage of the cheaper running costs and cleaner environment that come from this more sustainable mode of transport. We know that transport emissions remain a significant source of emissions in New South Wales, and decarbonising our passenger transport is critical for us to be able to achieve our emissions reductions targets. We're seeing continued growth in EV sales as time goes on, and our programs are designed to try to get ahead of the curve as much as

possible by installing and supporting charging infrastructure and helping businesses to transition their fleets to electric vehicles. I'm pleased to be participating in this hearing, and I'm happy to answer any questions on the programs and work that we're doing in New South Wales DCCEEW.

The CHAIR: I'll open up with a couple. I realise this is hugely complex and you're probably going to have a thousand questions thrown at you. At the moment there's a lot of work around government and short haul. I've got a Woolworths distribution centre in Auburn that is all electrified. That how they're doing it, bringing the trucks in and using the short-haul vehicles to get the distribution out. The uptake on EVs has been slow across Australia and New South Wales in comparison to other countries. A lot of that has been around the nature of range anxiety, distance and long haulage. We're looking at short haulage now. Obviously, we want to move to long haulage. I want to get a sense of how Transport for NSW and DCCEEW have a view across introducing infrastructure to ensure that those routes are opened up to at least get better city uptake because people have confidence that when they go out there, they will have the infrastructure to keep going.

TERRY NIEMEIER: Thank you for the question. Can I confirm whether you're referring to freight or passenger vehicle transport when you say short haul and long haul?

The CHAIR: Both, really—firstly passenger. Passenger uptake is going to be the main one. If you're in the Sydney Basin, charging in congested areas like the inner city areas, in apartment buildings, is a problem all of its own. But standalone housing has capacity, and there are usually charging stations. As those people buy a vehicle that they expect to take on holidays and do those things, one of the things holding them back is that ability to go long distances. It's initially passenger but, whether long haul is electric or hydrogen, the jury is still out on how it is going to operate. You can expand on that if you could.

TERRY NIEMEIER: Absolutely. I'll start with the work we're doing on the passenger vehicle side. Some of that will be useful to the freight sector as it moves in. I might hand over to my colleagues at Transport to answer a bit more around the freight side. On the passenger vehicle side, our EV strategy is setting out to create a world-class charging network. We know that Australia has long-distance travel as part of its ecosystem. We're a very spread out country, particularly when compared to a lot of the countries that have had faster uptake in electric vehicles. We know that's a challenge that people see in being able to feel confident and comfortable in making their next purchase an EV.

We have a suite of programs that are designed to support and stimulate the market for charging infrastructure. Our one of our key flagship programs is our EV fast charging program. That's a program worth \$149 million over four years plus to roll out ultra fast charging right across the State. We've set targets of getting a fast charger every 100 kilometres along our major highways and roads across New South Wales, and at and five-kilometre intervals in metropolitan areas to try and support those residents that don't have off-street parking, as you said. That program is complemented by our destination charging program, which focuses on regional tourist destination sites. It supports a range of different charging options at those regional destinations that get people out.

The first two rounds of our destination charging program focused on smaller scale, slower chargers at places where people had longer dwell times. That might have included accommodation, but also tourist attractions like wineries and libraries and other things that people are going to spend a few hours at. The third round, which we are just finalising, complemented both the fast charging program and those first two rounds by funding some medium-scale DC chargers. They're the chargers that aren't going to give you a 15-minute charge like an ultra fast charger does, but can charge your car within half an hour or so. We've focused on key routes along those tourist drive destinations across New South Wales where there was a lack of charging.

The CHAIR: One of the big examples we've had—because we've just been to Dubbo—is that if you go from Sydney to Dubbo, you're fine. Bathurst has excellent charging facilities. Millthorpe has a couple. I suspect Orange has a couple. Dubbo has the things. But people that drove to the inquiry from Newcastle through Dunedoo had to divert to Mudgee when they were running short because there were no chargers along that route. That seems to be one of the things with the 100-kilometre circle. The 100-kilometre circle doesn't necessarily mean it's on the route that you're on. It's somewhere where you'd have to divert to, and it may be another highway or another major road.

TERRY NIEMEIER: You're right. It could also be just a timing thing. We're focusing on major highways and roads. If that one is in that mix, the road that goes through Dunedoo, I'm not sure. I'd have to confirm whether that's on that major highways or roads area. Regardless, we would expect to have one eventually. So far, we've run three rounds and attracted applicants, and there may be some going along there. There are places where there are still are chargers coming along. We're by no means claiming that we've completed that task, but there's more to do.

The CHAIR: That is what's going to happen.

TERRY NIEMEIER: Yes.

The CHAIR: Is that because when you put CPOs out into the market, they're not picking them up? Is that the reason?

TERRY NIEMEIER: Yes. We've learned a lot through delivering the three rounds of grant programs. There are areas where they haven't taken up grants. There are areas where they've found it difficult, even once they've potentially planned to put something in. That's because of a range of factors, like how many cars are going through and trying to make that investment stack up. We continue to work, and it's by no means done. We're surveying the charge point operators as we go between each round, asking for feedback on the barriers they're seeing and on the return on investment level in those particular areas, whether it's planning challenges or whether it's connection challenges, and trying to factor that in as we run future rounds. We will be continuing to look at those black spots, for want of a better term, particularly in regional areas, where they certainly still remain.

Mr NATHAN HAGARTY: I'm going to change tack a bit. We've engaged with bus companies. There's been a bit of back and forth as to whether going fully electric straightaway is the best option or whether having a transition to hydrogen is a better option, given bus depots at the moment have got a big diesel tank and a diesel bowser and replacing that or having a hydrogen next to it is a much easier transition and works better with current processes rather than turning the fleet fully electric—and some of the challenges around getting enough energy into a depot to have a whole bunch of buses charging overnight. Can you speak to why that decision was made? Do we think we can do it in the time frame, given the challenges in the grid? Why was a transition to hydrogen, then to fully electric, not considered?

PETE GATENBY: Thank you for the question. Regarding the Zero Emission Buses program, which currently is in its first tranche across Greater Sydney, a decision was made during the development of that program to focus on electric vehicles, or battery electric buses, as we refer to them. However, what I'd note is that Transport did support a trial of a hydrogen bus on the Central Coast, followed by a demonstration project in the Illawarra of the same hydrogen bus technology, so we have investigated both types of technology. The decision, to my knowledge, is that battery electric buses was the technology that was available—it was ready to deploy at scale—and therefore, to get that program moving, that's the direction that tranche one has gone. I couldn't speak right now as to whether or not tranche two, or any later zero emission bus programs or projects, are looking into that still. I can take that on notice and come back to you, if you like.

Mr NATHAN HAGARTY: Yes, please, because I think some of the evidence we've heard is to the contrary. It'd be good if you could take that away.

Mr RAY WILLIAMS: I've got a rather long question, but I'm more than happy for you to take it on notice. I think the question is probably best directed to Mr Gatenby. Under the NSW Electric Vehicle Strategy there are a number of key funding initiatives on behalf of charging infrastructure and the provision of light and passenger vehicles. I'm specifically referring to the electric vehicle fleets incentive, the electric vehicle destinations charging grants, the kerbside charging grants and the EV ready building programs.

Could I ask for a total current budget by the New South Wales Government over the forward estimates of all of those particular areas with a breakdown in regards to the electric vehicle fleets incentive for light and passenger vehicles? Could I get a cost to date, or what's been spent to date out of the current budget, and the year-on-year costs going forward for all of those particular programs? Can I get itemised costs for each of the areas which I've raised and actual dollar figures—I don't want to be referred to a budget paper but actual dollar figures—that could be presented back to this particular Committee? As I said, I'm more than happy for you to take that on notice and send that back to us at a later date.

PETE GATENBY: Thank you for the question. Yes, I think we will have to take that one on notice, if you're after detailed budgetary figures. It'll be both Mr Niemeier and myself. A large number of the programs, including the incentive programs you've mentioned, are administered by DCCEW, although there is one or two items in there that are managed by Transport. We'd be happy to take that on notice and come back to you.

Mr RAY WILLIAMS: That'd it be great. Is there a particular depot at the moment that has scaled up in terms of electric vehicle buses in large numbers? Can you give us an idea of any numbers of particular depots?

PETE GATENBY: Absolutely. Thank you for the question. In regard to the zero emission bus program, as I mentioned earlier, tranche 1 in Greater Sydney is the current focus of that area of work. A couple of depots I can talk to. One would be the Leichhardt bus depot, operated by Transit Systems West, and that depot received 40 new electric buses a few years back. I'm not sure of the exact timing on that. That's 40 electric buses that have been charging. There were 36 fast-charging stations installed at that depot to support those buses, and Transport

supported, in partnership with that private operator, the delivery and operationalisation of those buses. We're also in the process now of bringing the Brookvale bus depot online as an electrified bus depot. I'd have to take on notice the exact status of that project, but I know it's current and happening right now.

Mr RAY WILLIAMS: If I could just refer to the Leichhardt Depot, in relation to those 40 electric buses that are charged each and every day—and maybe multiple times through the day—and the 36 charging stations, are you able to provide the Committee with the total electricity usage from those 36 charging stations? I don't want the overall total for the depot and anything else the depot does, but basically the amount of electricity required to charge the buses that are currently in use at the moment from those 36 charging stations.

PETE GATENBY: For exact figures, I'd have to take that on notice, but I can talk to a few high-level points there. The electrical consumption of the buses themselves is going to vastly outweigh any consumption of the depot. At the depot there, you have some office space, a workshop, maybe a wash facility—those sorts of ancillary loads. Those will be far lower in consumption than actual electric buses, at least once you get past the stage where you've got two, three or four buses that you're trialling. In this case, 40 electric buses is going to be the vast majority of the electrical demand. To get you exact figures, I'd have to come back.

Mr RAY WILLIAMS: Yes, and that's why I said I'm not interested in what the other electricity usage is in a depot. I'm well aware how much electricity use there is in a depot and what equipment is required to be charged, having worked in one for 22 years. Rather, I want the actual amount of electricity, and how that needs to be reflected, which is currently being used by those 36 charging stations in order to charge those 40 buses.

PETE GATENBY: Just to confirm, to make sure I come back with the right information, are you after the total energy consumption—so we'd be talking kilowatt hours in that case—or are you after cost information? Could you specify exactly what information?

Mr RAY WILLIAMS: I'm happy with the actual kilowatt hours from the 36 charging stations, as long as it's separate and there's nothing else weighing into that. But just from those 36 charging stations, on behalf of the 40 buses.

PETE GATENBY: I'll have to check in if there are any commercial sensitivities with the private operator, but I'm happy to come back with that information. What I can say is that electric buses—in our early modelling, we were predicting 1 to 1.1 kilowatt hours per kilometre of travel, is my understanding, or somewhere in that vicinity.

Mr NATHAN HAGARTY: Can I supplement that request? If the depot is offsetting any energy consumption through solar panels or purchasing renewables in the market, I think that'd be useful as well. Rather than just the total consumption figure, if some of that is actually renewable and being produced onsite and being offset, not coming from the grid, I think that would also be quite helpful.

PETE GATENBY: Yes, absolutely. At Leichhardt bus depot, there is a solar installation on the roof of the depot. I don't have the exact number, but it's somewhere in the 250- to 300-kilowatt range. That does offset some of that electricity consumption or demand. In addition, we do buy renewable energy to power those buses, so we are buying that from the market. We often try to follow—there's a hierarchy there of your preferred approach. You try to be most efficient in your use or your demand, and then you try to generate onsite as another way of doing that, and then beyond that, when you've exhausted those opportunities, you look to buy renewable energy.

Mr NATHAN HAGARTY: Yes, I think that would provide some useful additional context in relation to Mr Williams' question.

The CHAIR: We've talked a bit about vehicle-to-grid. These buses obviously don't have capacity for vehicle-to-grid, but would there be a capacity in the future for bus depots like Leichhardt to be vehicle-to-grid?

PETE GATENBY: Theoretically, yes. There are a lot of challenges in operationalising something like that. I couldn't talk to the legislative—I know you spoke to the AER this morning. There are a lot of hurdles on that side. But, technology wise, the bus itself would need to be in a position to do that. There are different manufacturers that may be at different stages of supporting that. The charging infrastructure would need to be able to support that. The retail electricity contracts, the market itself—there are a lot of different issues there. Beyond that, there's also that this is an operational facility. Our bus operators and Transport—our focus is on meeting the needs of the public as a bus service. Any consideration of something like vehicle-to-grid would come second to the operational needs.

The CHAIR: Yes, absolutely. I was just thinking that buses are busier on weekdays. There would be times when there were buses that were in downtime in the depot.

PETE GATENBY: Yes, absolutely. And at that depot we do actually have—it was supported by an ARENA funding grant. It was not delivered by Transport but by our partners. There is a large battery unit there that has been installed at the depot as part of that solar photovoltaic installation. The bus chargers and the buses themselves—it was all part of one project. To really test some of these theories is maybe the buses aren't ready for vehicle-to-grid, but maybe the battery can support that.

The CHAIR: So the battery can pull down off the grid when you're getting a higher solar uptake on the grid to charge the buses later at night.

PETE GATENBY: Absolutely. We're building these electrified bus depots with our partners. In some situations—I think there was comment about the grid earlier—there are challenges around retrofitting existing facilities and the necessary grid upgrades. Things like battery energy storage, onsite solar systems and vehicle to grid in the future help us mitigate some of that impact and help move those programs forward with minimal impact.

Mr WARREN KIRBY: I would like to know whether Transport has an opinion on the conversation between charge point operators and the electricity wholesalers with destination points on poles.

TERRY NIEMEIER: I might take that one because that's something that we're more involved in. Can I just confirm you're talking about the kerbside chargers that we're seeing put on electricity poles and the like in the city?

Mr WARREN KIRBY: Yes. We've heard evidence from the charge point operators about their concerns that the providers are using their power to hold back, and administrative charges et cetera. From the poles and wires folks themselves, they're saying that it's the most equitable way to move charging out into bush areas to have an asset owned by them and leased to different electricity companies, including charge point operators. I'm just wondering if you have an opinion on that.

TERRY NIEMEIER: It's not for me to have an opinion on those sorts of things. I'm very well aware that the DNSPs have been vocal on this issue and they've provided a public proposal on how that could work. The department is considering all options that can help support the uptake of EVs, but we certainly recognise that something like that could have a quite a big impact on the market. The Government made a commitment in the Consumer Energy Strategy to publicly consult before any sort of position was formed on the role that DNSPs could play. We maintain that commitment and expect to be able to open public consultation quite soon. We've been working on that. I don't have the exact date, but we expect to be able to open some consultation. We really want to hear from all players, including the charge point operators—we've certainly heard from them more directly—as well as the public about what opportunities those different models could provide and, importantly, the role that DNSPs can play across the whole EV charging segment and what the right fit is.

Mr WARREN KIRBY: To the points you were making earlier about assessments and where the fast chargers are going, when it comes to the destination chargers, what is council's involvement in that and how strong do you think the collaboration should be?

TERRY NIEMEIER: Councils play a really significant role in everything we do in EV charging, whether that's the big end of town through to the planning approvals and those kerbside slower destination chargers. They play a critical role in coordinating the approval process for parking changes as well as consent to install the chargers where they particularly end up on council land. Every council is a little bit different. We know that councils are the interface with their communities, and that's really critical because they're the ones who are hearing the concerns from community members around parking challenges in their area but also hearing from their communities in wanting to do more to attract the types of tourism that sometimes EV charging can bring to their area and the revenue it can bring local businesses.

Councils are absolutely critical across everything we do, so we've spent a lot of time and effort in my area working with councils right across the State and providing them with tools and information to help them in making those informed decisions when they get applications in from charge point operators or they're considering what their role is, whether they want to open up land use in their area or open up car parks for potential charging in the future, as well as facilitating those parking decisions. There are certainly always opportunities to improve the collaboration across all areas, but some councils are doing a fantastic job. What we're trying to do is help share those learnings and be able to provide that information to other councils that are often struggling with resourcing more than anything in their ability to be able to help out in that space.

Mr WARREN KIRBY: If you do have any ideas how those collaborations could be improved between all of the stakeholders, I would like to hear them.

TERRY NIEMEIER: For sure.

The CHAIR: Can I just follow up on a question regarding the DNSPs and the CPOs. Are you aware of the ARENA project that's being run with Essential Energy with the power poles at the moment?

TERRY NIEMEIER: Not the specific details of it. I know that Essential Energy was considering something but I'm not sure of the current status.

The CHAIR: They've essentially been given funding and they've got the telegraph poles that are—someone will remember what type they are—a lightweight pole, and it has a panel on it that they take off and a charge point actually goes into the pole. They have funding to produce 300 that CPOs can lease from them. But you're not aware. If you can take it on notice and come back to us.

TERRY NIEMEIER: Yes, I can find out what we know about it.

The CHAIR: One of the complex issues is Sydney is a competitive market. You don't necessarily want a charge point on every telegraph pole because parking is an issue in Sydney—I'm pretty sure everyone will agree—and that creates a problem. Cobar and Warren shires in particular raised this point. Once you start getting into those more remote communities, it's near on impossible to get a CPO there, and I think this was modelled around—you would've heard maybe what the energy regulator was saying before—the provider of last resort making it easier in remote and regional communities to get it. But it also dealt with a big problem that Cobar and Warren had where there was a lot of vandalism of chargers. If they're in a town where there's no-one at night and kids are running around, they were getting damaged internally, which I suspect is completely different to the Sydney market, particularly the inner city market.

TERRY NIEMEIER: For sure. There certainly are different challenges in remote and regional areas for a range of reasons, starting from the electricity infrastructure itself right through to the actual market conditions that we need to have enough throughput for a charge point operator to make that investment. That's something we've been working on and considering all different ways that we might be able to do that. With our grant programs, we know that we try and fund a fairly substantial proportion of the initial investment, and the more remote and regional we get, the fewer applications we certainly have got in that. We're looking to learn from that and adapt. But I can certainly take on notice and get any information we have in the New South Wales department on that ARENA project. But we'll be certainly watching and learning from anything that's happening in that space to see if there's a way that we can use that learning in program design for the future.

The CHAIR: Likewise the other in the city—perhaps Transport could have a view on this. I know that, say, on Parramatta Road, we have a problem where there's the Lidcombe Shopping Centre and the Costco—co-located. I think the Costco is the only place that has electric charging vehicle stations, but it has also just put in a very large petrol station. You've got two shopping centres, one with a left-hand turn-in, one with a right-hand turn-in. They tend to clog the roads. If there's no control over where chargers are going, how are we dealing with those particularly Saturday morning traffic problems that we get in Sydney, where there's just congestion everywhere and people are trying to get into these charging spots?

PETE GATENBY: I think in the case of private facilities, if you've got some EV chargers in a shopping centre, for example—I'm not familiar with the specific example you gave. That's more of an issue for those locations. We may not play a role in that. However, if we were rolling out our own programs, some of the EV charging programs that Transport is delivering—we do work with councils on traffic management, traffic flow situations. We've got programs going in around our train stations, a commuter car park program, an EV charging program. We do take traffic considerations into account for those and try to account for that. But it is a very valid point that putting these in the wrong location could create traffic flow and safety issues. It's an important point for charge point operators and project developers and councils to manage.

The CHAIR: They're going into commuter car parks. For example, Auburn has got a council car park that's a block from it; it doesn't have a commuter car park. Would they be eligible to also apply to get EV charging stations in their council car parks? The Lidcombe station one is also owned by council. How does that mix work? Is the funding only available for commuters?

PETE GATENBY: It's a great question. The funding under the Electric Vehicle Strategy was provided for Transport to install destination charging at commuter car parks and other popular Transport for NSW sites, noting that Transport—we operate statewide. Of course councils are statewide too. There are always opportunities for us to work with those councils. The reason we've been targeting the commuter car parks is that we are the asset custodian. We own that site. We have the right to go and install those facilities. But that doesn't prevent councils from working with us—so more than happy to work with councils.

TERRY NIEMEIER: I'll add that the kerbside charging program, which was our metropolitan-based lower capacity charging program, did have eligibility for council car parks, particularly for either those slower AC chargers similar to the ones on power poles—they can be installed on pedestals in council car parks. We

certainly saw quite a few applications across Sydney where that occurred. That ranged up to some of the smaller DC chargers that might charge a vehicle over a few hours, so a typical shopping time or something like that. There certainly was eligibility for those council car parks in the first two rounds of our kerbside charging program.

The CHAIR: But most of them would have been picked up mainly by the shopping centres, I imagine—the kerbside.

TERRY NIEMEIER: Not in that one.

The CHAIR: Or they have fast chargers?

TERRY NIEMEIER: The shopping centres have been more active in our fast charging program. The kerbside charging program did see some councils—most of the councils didn't express a big interest in putting the chargers in themselves, but they partnered with charge point operators to be able to put those in. There are quite a few examples of that occurring. But one thing we do run to try and make sure we're making the right connections, whether it's for a program of our own or just private investment is something called our site host prospectus. That's available on our website. We encourage councils, where they've got sites like that that they would like to encourage investment in charging, to say, "I've got this site and it's open and we're willing to work with someone who wants to put charging on there." That provides a way that we can connect those dots so that they can, for free—that applies to business car parks as well.

The CHAIR: I want to change tack a bit. We've got three ports: Sydney port, the port in Wollongong and Newcastle port. Now the container limit or the subsidies come off Sydney port. I'm assume there's a capacity to expand the Newcastle port to be a container terminal port, which it isn't at the moment—it's a bulk port—and Wollongong port. Is there a long-term vision—I know it's not going to happen overnight—about how we're going to transport from those inland or food bowl regions into those two ports and how we're going to look at alternate vehicle energy or hydrogen into those points? I mean, the roads will have to change if we're looking 30 or 40 years down the track to where we want to be.

BIANCA SLACK-SMITH: There's a bit to that question. Just to confirm, the Port of Newcastle, Port Kembla and Port Botany are all privately operated, and it's within their remit to determine what functions they have at their ports. So yes, Port of Newcastle or Port Kembla could develop a container terminal. We've just recently completed the Freight Policy Reform Program, which was a broad look at the whole freight system. As part of that work, it's clear that there is actually significant capacity within Port Botany remaining. Port Botany has the capacity to expand and to take a lot more containers than it currently does, with infrastructure supporting.

It certainly was the view of the panel that undertook that review at the time that the focus for the immediate medium and long term should be on enabling Port Botany to reach that capacity. That's the most logical and efficient way to transport containers, which are mostly going to Western Sydney and largely servicing the population of the State. So go where the people are. It's not expected there's huge shifts, but there's certainly planning there recognising we have a role as Transport to provide those landside connections to all three ports. In terms of energy, though, there's work underway at Port of Newcastle and Port Kembla with alternative fuels, but it's sort of too long term for freight. At the moment we're still in that transition process and really things are evolving and developing. We haven't got a plan around exactly what will be moving and then what sort of energy sources are needed for the roads that far out.

The CHAIR: The view about Newcastle and Wollongong was that it's not the capacity of the port itself; it's about the ease of access of Port Botany. In a major city like Sydney the projections are for, what, another million people by 2040? It's about getting trucks in and out of Sydney rather than getting trucks in and out of Newcastle and the Illawarra. If you're coming from the south, from those food bowls, and you're shipping overseas, or if you're coming in from Cobar or Warren shire and shipping overseas, that it was easier to come into those ports.

BIANCA SLACK-SMITH: The connections to the port to support the growth of the population and therefore the freight task, there's a lot of actions which also support our commitments to net zero to move more on rail. So particularly through metropolitan Sydney to the port trying to unlock the capacity of rail to ensure more containers are moving on rail. That then of course also enables that landside connection on road by reducing the number of trucks required to move that projected growth of freight. There's definitely plans and there's a commitment to develop a freight master plan as part of the freight reform program to really map out exactly what you're describing, which is, what are those freight movements across the State to ensure those connections are all in place?

I'll just flag that we've also been working—it's not complete. As part of the Towards Net Zero Emissions Freight Policy, in partnership with the Australian Government and the Victoria and Queensland governments through iMOVE, we've been undertaking a geospatial analysis for charging infrastructure. We're really trying to

identify the optimal locations for charging for freight vehicles into the future. That work is not complete but it's well advanced.

The CHAIR: And that will deal with, say, the heavy vehicle movements through Dubbo where you've got three highways joining up?

BIANCA SLACK-SMITH: Yes.

The CHAIR: And those ones coming up from Victoria to Queensland that'll bypass, using the in-line route.

BIANCA SLACK-SMITH: Yes, that's right, which is why we partnered, because it is those long distance across the three States.

PETE GATENBY: And we partner with those State governments too, right?

BIANCA SLACK-SMITH: That's right, yes.

Mr NATHAN HAGARTY: I want to go back to the role of councils. In my patch, until a charger was installed at Liverpool train station, there wasn't a single EV charger in the Liverpool CBD, which is pretty extraordinary. I know that both I and the member for Liverpool have tried to engage with Liverpool council on this. There are grants that the State Government has given out where they're looking to work with Liverpool council. The reason from Liverpool council is they have to go out for tender. They have to do an EOI. I want to get some clarity, because there seems to be different approaches from different councils and questions on whether some councils are doing this better than others. You mentioned resourcing; I wonder whether competence is also another factor in this. It just seems extraordinary that there are no EV chargers in the Liverpool CBD. Given the amount of land that Liverpool council has, they could easily get on board with this. The last time my colleague checked in, they still hadn't gone out for an EOI. Is there a need for an EOI if the charge point operator has been given a grant by the State Government? Can you speak to that?

TERRY NIEMEIER: I'm not sure I can speak to the processes and requirements that councils set, as far as whether they need to go out for an EOI. That is not certainly something that we require for the grant process.

Mr NATHAN HAGARTY: Do you know if every other council is doing that?

TERRY NIEMEIER: I don't know if every other council is doing that, but I'm certainly aware that some have and some do it. They like to hear from us on timings when we're planning on launching a grant round, so that they can factor in timing to be able to go out for an EOI. We certainly have had feedback that that's helpful. In the last round of our kerbside program, which focused on—had a huge role with councils, that was certainly something they appreciated, which was a lot more detailed engagement. In the lead-up to that, we wrote to the mayors of all of the eligible LGAs, encouraging them to get involved or to at least facilitate the conversations with the charge point operators. But yes, I think there are certainly a number of hurdles and barriers that they face in councils, ranging from the people that they can put onto those sorts of projects, as well as community feedback and what they're hearing both from their elected councils and their communities. Our role is to try and share learnings across the councils and to inform them. We met with each of the eligible councils through the grant program to inform them on what the process was from our end and how they could get involved to maximise the benefits for their area.

Mr NATHAN HAGARTY: We've heard previous evidence that the regional organisations of councils are playing a really good role. When some are a bit more resourced up than others, then the ROCs can have this overarching role where they provide a bit of consistency, guidance, assistance and help in that space.

TERRY NIEMEIER: Absolutely. Regional councils in particular are often very light on, resourcing wise. So those regional joint council groups are hugely beneficial to everything we do in the net zero space. We have a program out of DCCEE that works with the joint organisations across the State to help them with net zero planning. Through that, we've been able to help those really light-on regional areas with EV planning, even if it's just with some smaller support in how they think about the future of EVs in their area, whether that's for local residents or—particularly tourist towns in those areas. That's where I think they see a lot of benefit in having the time to think through what their role is and the benefits that it can bring, like attracting tourists to their area.

Mr NATHAN HAGARTY: As a follow up to that, I'm sure my friends at Liverpool council are watching. If not, they're going to go over the transcript. They tend to do that when I'm speaking in Parliament. Is there a good example of a good joint organisation (JO) or a good council that they could pick the phone up to and go, "How do we do this efficiently? How do we get EV chargers in Liverpool?" Can you give some examples of some better councils or some better JOs that they can speak to?

TERRY NIEMEIER: I won't try and name names in this because I think every council has got their own benefits, both economically as well as the people that they have there. But, if they want to reach out to the team, we can certainly connect them.

PETE GATENBY: One example I might add to that regarding Liverpool, I mentioned earlier that Transport is leading a commuter car park EV charging program. We have two different program streams there. They're separate projects. One is where we are delivering EV chargers funded by the Electric Vehicle Strategy. Another is where we've partnered with industry, with a charge point operator, JOLT. Liverpool is an example where they've just recently, in August, brought live the Liverpool station EV charger.

Mr NATHAN HAGARTY: That's the one single EV charger in the Liverpool CBD. Thank you, but it shouldn't be up to you guys. On a different topic, we know that there was a decision made by the previous Government in relation to zero-emission buses and making sure that all new buses are electric. I think that's commendable. We know that we need to decarbonise the economy, but there have been challenges in procurement and getting new fleet on. I think we can acknowledge that. I want to ask—there's a challenge there, right? We have a commendable goal in trying to decarbonise, but the fact that there are a lack of buses, especially out in my part of the world—in fact, everyone's part of the world who's on this Committee—means that I have kids who are left on the kerb every afternoon because there aren't enough buses. I have people who can't get around because there aren't enough buses and we aren't able to put on enough bus routes.

I know there are other factors in that. It's not just about fleet. There are issues with drivers and issues with resourcing, but has there been some consideration about weighing up these two public goals? Decarbonising is great, and it's a long-term thing but, in the end, is it your goal as Transport for NSW to get people around efficiently and effectively, and are we hampering that by having this rock-solid policy of only having zero-emissions buses? If we can get other buses that are fuelled in other ways quickly and efficiently, and that gets people around, that would make my community happier and, I'm sure, other communities around the State. Do you have any commentary on that rant?

PETE GATENBY: I will have to take some of that on notice and go back to the bus team—both the Zero Emission Buses program and the bus operations team. I mentioned earlier, when we talked to electrification of bus depot operations, the service delivery is going to be Transport's priority. In terms of previous decisions for all new buses to be electric, I don't believe there is a specific decision for buses to be electric. There was for the first tranche of that Zero Emission Buses program, and that was to get the program moving. I'm not aware—I can take that on notice as well—that a decision has been made that only electric buses would be used in the future. There is still some sort of technology agnostic approach there that I'm aware of. In terms of the goal to decarbonise—that is the Zero Emission Buses program versus bus services—I'm not aware of that being in conflict. We are rolling off some of the oldest buses in the fleet, which are at retirement age. That's what's being replaced by the electric buses. But any further commentary I'd have to take on notice and go back to the bus teams.

The CHAIR: I want to ask a different kind of question. It's about electric vehicle signage. This is one of the city-country divides where, if you've got a charger on every telegraph pole, then it's going to create chaos, particularly if it's EV signed that that's the parking for it. That becomes a problem. There is also an ability for councils to make money out of leasing EV spots. It tends to be the case now that the car spot is leased to the CPO and it's set aside, and therefore councils are making money. As you know, once councils are making money and they see that as a good way to get in, they'll keep doing it. There are three questions; I know you'll have to write them all down. There was a picture in the Herald of an EV charging spot with a one-hour parking sign above it. It didn't say "EV vehicles only". I would have taken that as I can park there for an hour or an EV charger can stay there and charge, whereas it was one-hour parking for EV charging. How is the education happening around those kinds of spots? How are you going to moderate what could become, as we hit 50 per cent electric vehicles, a race on parking spots by councils and these EV chargers?

TERRY NIEMEIER: I'll take the majority of that question.

The CHAIR: Right, it's you. I thought Transport was putting up the things.

TERRY NIEMEIER: Our Transport colleagues were critical in developing a standard for that signage piece. To speak to the signage piece, Transport for NSW led a piece of work with Austroads to create a national standard and some guidelines around signage for parking, particularly to add EV parking to the existing standards. The first piece is to have a consistent approach to EV parking signage and how we can apply that. Through our grant programs, though, we've so far left that largely to the councils because parking regulation and the nuances of how they might go through the relevant approvals are complex and can be quite controversial, particularly with local residents. We've largely left that to the interaction between the charge point operator and the council. Some have chosen not to put in EV restricted parking, and that means that anyone can park there.

If you are an EV driver, you may have to wait, or you may have to be lucky to get that spot that happens to have a charger. That means that there's a lot less red tape and paperwork to go through in getting the approval for that site. Councils, at least initially, were a lot more open to that. The challenge then is that councils have provided feedback to us that they have EV drivers writing to them saying they can never get that spot. That can become its own challenge. The kerbside program was the first of its kind in Australia. There are certainly similar things happening overseas, and we're always looking to learn from experiences overseas as well as the experiences we're seeing here in New South Wales.

There are a few of those situations that have been used as test cases to see how open communities are to charging and restricted charging for EVs in their area. That then gets cycled through the councils as information so that they can make informed decisions on whether they want to have that restricted spot for EV only and the appropriate signage that goes there, as well as where they choose to put these things. Occasionally there might be better spots to restrict the parking.

The CHAIR: But if it just has the EV with the electric cord out the back, does that mean it's EV only parking?

TERRY NIEMEIER: Not unless there's a sign that says EV parking.

The CHAIR: So it has to say "EV only parking"?

TERRY NIEMEIER: Yes, there'll be a sign that says "EV only parking while charging" to be able to restrict it. There certainly are cases you'll see around Sydney where that's not the case. There may be a charger there but it's not restricted.

The CHAIR: If it said "1P" and then it had the electric vehicle, that means someone can only charge for an hour?

TERRY NIEMEIER: Yes, that would be the application of the signage that's there. That hasn't been restricted in that case by the sounds of it. If you've got a picture of it and you want to send it, we can send it to the council to confirm that particular case. But for it to be enforceable as EV only parking, it would need to be signposted and not just have a charger.

The CHAIR: How are you going to deal with that going forward as EV uptake becomes greater? As you know, parking is a premium anyway.

TERRY NIEMEIER: Yes.

The CHAIR: We're going to have a competitive market. We could end up with 50 per cent of parking spaces in Sydney under lease to CPOs.

TERRY NIEMEIER: That's a really interesting challenge, particularly as the growth happens. There's a future state where most cars are EVs and it becomes not a problem anymore, because most of the cars are going to be EVs and it'll be sharing. But we don't know when that is. There's a period in between where lots of cars are going to be battling for those premium car parks, as you said. I think councils are grappling with that and engaging with their communities. They certainly may make some revenue if they're leasing the spot, like they would if there was any other council land that's leased or that private businesses are allowed to make money off. They are working on getting that balance right of how much that is to still attract the charging investment in their area.

But the feedback from communities is also really important to them. They're more often than not trying to identify better spots that are maybe just around the corner from a more premium car parking location to have that balance so it's not that far to walk if you are parking an EV, but it's not one that is a really hotly contested parking spot, particularly in those congested areas like in the eastern suburbs. But it's a real challenge. We're trying to facilitate those conversations and learnings from councils and to be able to share that across so that they can make those informed decisions with their traffic committee in what parking is set aside for EV charging as more and more is rolled out.

The CHAIR: Traffic committees have State representatives. Roads sits on those committees, so there is a view. It's more that there would be a capacity for some councils to make a lot of money out of EV charging, and I can see you ending up with these big conflicts, particularly along beachside suburbs, where you've got people coming in and where there are already issues, and these spots get taken for what is essentially a business purpose.

PETE GATENBY: That becomes a council decision at that point around the commercial benefits of preserving that space for EV charging versus the community need for either parking as a non-EV or parking as an EV.

The CHAIR: I have one other question. Fast EV charging into petrol stations—how are we going with that transition? There are big players in the market that can put them in, and then there are the smaller suburban stations. How is that transition going to be handled? Time will eventually weed out the petrol fuel tanks and the EV chargers will come in. Is that the model we're looking at?

TERRY NIEMEIER: Yes. That is an interesting question. It's a real challenge, and not something we've heard lots of different stakeholder feedback on. Petrol stations seem like the obvious place for EV charging. There certainly are ones that have put charging in to complement their other offerings. We have also received feedback from a lot of the fuel majors that have participated in grant rounds that we've run that petrol stations can also be really complex places to try and install large amounts of electrical infrastructure, particularly older fuel stations that may have buried services and buried fuel tanks around them.

The CHAIR: And fast chargers can be expensive. I've heard \$1.5 million to put them in.

TERRY NIEMEIER: They can certainly be up around that that sort of figure. They're significant investments, but they have a very similar use case to a petrol station. We've seen a lot of interest from the fuel majors in putting EV chargers in where they can, but we've also seen lots of challenges in some of those locations—particularly in the city, where there's quite constrained sites—in trying to fit them in. Interestingly, there are certainly other entrants to that charge market that are outside the normal fuel suppliers that are opting for car parks in shopping centres and things like that as easier spots to get the electrical infrastructure in and out, but still provide similar amenity to their customers, like a bathroom or a shop to get something to drink while they're waiting for a charge. Those sorts of things are really important, whether it's from a petrol station or another source.

The CHAIR: Is there an advantage—and I don't know if you've thought about this—as perhaps with active transport, to use your monopoly in the market in terms of the public transport system to force change? Somewhere like Liverpool has a huge commuter car park. Where's that big one they just built down your way that was in Charishma's electorate?

Mr NATHAN HAGARTY: Edmondson Park?

The CHAIR: No. Anyhow, you've got huge commuter car parks going in, making it an incentive to have an electric vehicle—

Mr NATHAN HAGARTY: Warwick Farm.

The CHAIR: Yes, Warwick Farm is the one that I was thinking of—an incentive to have an electric vehicle because that's where the premium spots are. As we do with cigarette pricing and putting the price—it's a bad example—but we use price and incentives and mechanisms to change people's behaviours. I know it's not what we normally do as a government, but it's the same principle as putting in bike facilities at train stations to try and change people's behaviour and getting them to ride to the station rather than drive a car.

PETE GATENBY: Yes, absolutely. There are some great examples out there where we are installing EV charging at those commuter car parks in Western Sydney. We've installed five commuter car parks to date with EV charging. There are typically eight to 10 charging ports in each of the car parks. Those are what you'd call slow or destination chargers. The theory there is that people will come. They're commuters; they'll park their car in the spot and charge the car throughout the day. There's no need for the expensive, high-speed, fast-charging infrastructure. We're installing across a range of different commuter car parks, some in areas where that local government area or that postcode may not have a high uptake yet of electric vehicles. We see that as an enabler; that's removing a barrier. People will be able to make the choice to buy an electric vehicle because they know there's an option for them, as a commuter in Western Sydney, for example, to come into the city to be able to top up the car once or twice a week. We're also looking at some areas where there's been really high EV penetration and uptake to date. Linfield in the North Shore of Sydney is a good example of that, where we've seen high utilisation of the EV chargers at the commuter car park.

The CHAIR: When you're building the new commuter car parks, are you building them so that they can eventually be retrofitted, so that 25 per cent of the spaces can be electric vehicle charging spaces? When you do that, do you get a CPO and put out an expression of interest? How does the commuter know—I assume they've got apps and things on their phone—which provider is going to be at the end or are you offering a range of providers?

PETE GATENBY: That's a great question. I'll have to take on notice if there's any particular direction on the charge point operator long term. I couldn't comment just yet on that. In terms of the construction of the car parks, we are making some of those car parks EV ready, if you will—they're ready for EV charging. I'm not sure that we'd be looking at 25 per cent of spaces. It's really a balance between how much early, up-front cost do we

want to invest for a future need. We want to find that balance of "Let's put some money in now. Let's make sure this car park is ready. It'll save us money in the long run," without overdelivering on that front. We are putting in capacity for those. Some of those car parks I mentioned have benefited from that. They're some of the newer—I think you mentioned Edmondson Park. There are two commuter car parks at that station.

Mr NATHAN HAGARTY: Leppington.

PETE GATENBY: And Leppington as well. We are seeing that. In other cases we're looking to retrofit. For any of those projects we go through a number of different decisions as to what kind of charging and what quantity of chargers we put in. Some areas we may think require one or two charge ports that are fast charging. Other areas might have a much higher uptake—like Linfield, as I said—where we want to see more spots in there and really support the existing EV owners.

The CHAIR: What about new government projects? For example, Bankstown hospital is going to have a new 750-space car park and 250 on the ground, so it's going to be a big facility. Is Transport driving—because they've been part of the planning—those projects to also include the charging facilities?

PETE GATENBY: I'll have to take that on notice. I would imagine the car park design is with Health Infrastructure, but I will take on notice to see if Transport has played any role in the EV readiness of that facility.

The CHAIR: I guess the question is that at some stage we have to take a holistic approach to all this. We look back to what happened with broadband and Telstra, and the problems of having a private operator with that, and then people coming back in later and building fibre to the node. It all becomes very expensive and very complex. Sometimes, even though it's more expensive, doing the stuff up-front so you can put it in later on—retrofit it—is the cheapest option. I know that's a budget question that you guys don't get to answer. We'll take it up with the Treasurer, I'm sure, at some stage.

PETE GATENBY: I appreciate the comment. As I said, we have benefited in some of the EV charging programs we've delivered at commuter car parks from that foresight. A few of those car parks were built a while back, and the design decisions were made even earlier than that. By putting in a little bit of forethought and planning ahead for that and investing a small amount of additional capital, we saved a lot of money.

The CHAIR: As we go forward, do schools have a charger for teachers when they come in? Do our hospitals have them in? Do places where we know people go to work and they'll park, and they're essential workers that we need? Does the local fire station have somewhere someone can plug in in rural communities? Those kinds of questions.

PETE GATENBY: Absolutely, and I couldn't comment on schools or others. But the things that you can add into that project development are: do we need battery energy storage at those facilities to complement the EV charging, what are the complementary technologies and how do we deliver it as holistically as you said?

The CHAIR: As we're building new infrastructure going forward.

PETE GATENBY: Yes, and even retrofitting as well.

The CHAIR: I want to ask one more question about ARENA and the grants, because you said the Leichhardt depot had a grant from ARENA to put in the battery operation, and we had this project that Essential Energy is doing with the thing. It appears to me that maybe the communication isn't great when ARENA is doing those things with State bodies or the energy regulator. You see this in government a lot, where decisions are being made in department and there's a grassroots that has a better understanding of what's happening on the ground. How is that communication happening to know where infrastructure should be going in? Is it part of the grants process that they come to you to say, "Is this an appropriate one?", or is there a tick-off box where they've got to consult with you guys as part of the grant application process? How is it working?

TERRY NIEMEIER: Great question. At an officer level, we work quite closely with all levels of government and all different parts of the different levels of jurisdictions, including the Commonwealth. We have regular meetings with them on the implementation of the national EV strategy, and stakeholders from groups like ARENA are involved in some of those discussions. We certainly ensure when we're providing grant funding that there isn't an overlap that could create a conflict, so they're not double dipping, or if there is additional funding that we're able to reflect that. That's part of our grant checklists, to ensure that we know of any other funding sources.

As far as our future plans and where we're trying to roll out EV charging, and making sure we don't land in the same place and end up with more infrastructure benefiting one area while others may still have a need, we make sure that our State plans are mapped out—where our priority zones are. We've been working with the national EV implementation group to effectively use that similar mapping system that we have to map out the

plans at a national level. That provides investment confidence for the charge point operators so they can see where there is priority. Whether there's funding there or not, there's clearly a need, and also opportunity for future funding. Also, that provides a bit of that coordination, so that we know that we're looking to offer grants in an area.

The CHAIR: It gives them an incentive to go into where you want them to go into.

TERRY NIEMEIER: That's right.

PETE GATENBY: If I could add to that, in terms of our involvement with ARENA, that will depend on a project-by-project basis. For the example that was given earlier around the Leichhardt bus depot, Transport for NSW was not the recipient of the funding. We're obviously very involved in the operations of that depot and the outcomes that it delivers to the community; however, that was grant funding that went to a private participant in the market. Our involvement in that would only be as it relates to our involvement.

The CHAIR: So your energy provider applied for the grant and that's how it went in?

PETE GATENBY: In this case, it was a Transgrid-Zenobe joint venture. I believe they were the recipients there. They worked in partnership with the bus depot operator and with Transport for NSW as the ultimate service recipient. We would play our role as it's relevant. In other cases, Transport for NSW is developing and delivering a community battery project or pilot project and so we are the direct recipient of the funding there. We have a much more direct and significant involvement with ARENA, who are providing funding for that project.

Mr RAY WILLIAMS: I come back to the Leichhardt depot. Mr Gatenby raised one thing that I wanted to ask. I thought I'd missed the opportunity. Given the 40 buses that are operating out of that depot, I imagine they would be in the mix doing similar work to every other bus that's on the premises and doing the usual route work and school work et cetera. Would you be able to provide the Committee—I'm happy for you to take this on notice—with the total kilometres travelled by those 40 buses over a 12-month period or even a six-month period?

PETE GATENBY: I'll have to take that on notice. I don't have that information available. I'll take that to the bus team.

Mr RAY WILLIAMS: That would be fine. If you can come back, that would be terrific.

The CHAIR: There's nothing else you think we should know before you leave?

PETE GATENBY: No. Thank you for the opportunity.

TERRY NIEMEIER: Thank you for the opportunity.

The CHAIR: Thank you very much. You will be provided with a copy of the transcript of today's proceedings for corrections. Committee staff will also email you any questions taken on notice from today and any supplementary questions from the Committee. We ask that you return answers to questions taken on notice and supplementary questions within 14 days of the date on which questions are sent to you. If you're having difficulties with that time frame, you can always apply for an extension. You've got a lot of detailed questions there. That concludes our public hearing. I again thank the witnesses who appeared today. I also thank the Committee staff, Hansard and AVB for their assistance.

(The witnesses withdrew.)

The Committee adjourned at 11:45.