

# TRANSCRIPT

## LEGISLATIVE COUNCIL ECONOMY AND INFRASTRUCTURE COMMITTEE

### Inquiry into Electricity Supply for Electric Vehicles

Melbourne – Friday 27 February 2026

#### MEMBERS

Georgie Purcell – Chair

Richard Welch – Deputy Chair

John Berger

Gaelle Broad

Katherine Copsey

Moira Deeming

Tom McIntosh

Evan Mulholland

Sonja Terpstra

**WITNESSES**

David Magill, Senior Manager, Government and Community Relations,

Ralph Griffiths, General Manager, Policy and Regulation, and

Mabelle Reyes, Head of e-Mobility (*via videoconference*), AGL.

**The CHAIR:** I declare open the Legislative Council Economy and Infrastructure Committee's public hearing for the Inquiry into Electricity Supply for Electric Vehicles. Please ensure that mobile phones have been switched to silent and that background noise is minimised.

I would like to begin this hearing by respectfully acknowledging the Aboriginal peoples, the traditional custodians of the various lands we are gathered on today, and pay my respects to their ancestors, elders and families. I particularly welcome any elders or community members who are here today to impart their knowledge of this issue to the committee or who are watching the broadcast of these proceedings. I also welcome any other members of the public watching via the live broadcast.

We will have committee members introduce themselves. I am Georgie Purcell, Member for Northern Victoria.

**Katherine COPSEY:** Katherine Copsey, Member for Southern Metropolitan.

**Tom McINTOSH:** Tom McIntosh, Member for Eastern Victoria.

**The CHAIR:** Thank you so much for appearing before us today. All evidence taken is protected by parliamentary privilege as provided by the *Constitution Act* and further subject to the provisions of the Legislative Council standing orders. Therefore the information you provide during this hearing is protected by law. You are protected against any action for what you say during the hearing, but if you go elsewhere and repeat the same things, those comments may not be protected by this privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of Parliament.

All evidence is being recorded, and you will be provided with a proof version of the transcript following the hearing. Transcripts will ultimately be made public and posted on the committee's website.

For the Hansard record, could I get you all to state your full names and the organisation you are appearing on behalf of. For the sake of ease, we might do the room, then the screen.

**Ralph GRIFFITHS:** Ralph Griffiths, AGL.

**David MAGILL:** David Magill, AGL.

**Mabelle REYES:** Mabelle Reyes, AGL.

**The CHAIR:** Wonderful, thank you so much. We now welcome your opening comments but ask they are kept to around 10 to 15 minutes to ensure plenty of time for discussion and questions.

**Ralph GRIFFITHS:** Thank you, Chair. I will do a quick opening. As noted, my name is Ralph Griffiths. I am General Manager, Policy and Regulation, at AGL. I am joined here by my colleague Mabelle Reyes, who is Head of e-Mobility, and David Magill, who is Senior Manager, Government and Community Relations.

AGL really welcomes the opportunity to appear before the committee. Our evidence draws on AGL's experience delivering EV charging solutions and working across the energy and transport ecosystem. Our submission focused on four areas: grid impacts, enabling EV ownership, the role of distribution businesses and regulatory opportunities to accelerate uptake.

In relation to grid impacts, electric vehicles can support both grid reliability and consumer affordability. AGL's experience and the available evidence indicates EVs do not pose a material risk to peak demand. EV charging loads are flexible, diverse and responsive to price signals. Our EV Night Saver and Three for Free products show that simple, actionable, time-of-use pricing shifts charging away from peak demand towards periods of lower demand, and while EVs do increase total electricity use, the increased use outside of peak hours

improves utilisation of electricity networks and delivers benefits to all customers. Any peak congestion risks are more likely to be localised and can be managed through existing DNSP planning and tariff processes.

In relation to enabling uptake of EV ownership, as the committee is no doubt aware, Australia will need around 5 million EVs on the road by 2035 to meet emissions targets. Ensuring charging is affordable, reliable and accessible will be critical to this. Customers require access to a range of charging solutions. While many will charge primarily at home, high-quality public charging is essential both for customers without home charging and for all drivers when travelling. Access to high-speed DC charging is particularly important given the longer time to charge with AC charging.

Bidirectional charging presents a really significant opportunity for consumers and the electricity system. Vehicle to load, vehicle to home, vehicle to grid – these technologies can reduce household bills, provide backup power and support the grid during peak periods. AGL is working with networks and car manufacturers on ways to deliver this safely and simply, but it is a journey, and in practice customers are likely to engage first with benefits for the home before participating in broader grid services.

In relation to the role of distribution businesses, public charging in Australia is expanding rapidly from a small base. Technologies will keep changing. Customers' needs will continue to evolve, and competition and innovation are critical to meeting these. DNSPs have a critical role. Their role is in enabling the facilitation of the connections and setting the pricing around EV charging. Where DNSPs are permitted to provide EV charging services within their monopoly areas, strong ring fencing and competition protections are essential to maintain confidence in fair access, fair service and fair pricing. Where public funding is used to accelerate a rollout of EV charging, maintaining competitive neutrality is critical to ensure value for money, innovation and good customer outcomes from these funds.

Finally, in relation to regulatory opportunities there are significant opportunities for the Victorian government to accelerate EV uptake. While national reforms will help bring cleaner vehicles to the market, charging infrastructure must scale rapidly to support adoption and reduce range anxiety. State and local governments can assist by streamlining the planning and approvals process, providing access to public land for charging and demonstrating leadership through fleet electrification. There is also an opportunity to address barriers for apartment charging, where the up-front costs and strata decision-making can restrict access. There are also several no-regrets actions in relation to network regulation that could be used to accelerate efficient rollout of EV charging, particularly public charging. These include things like setting clear, enforceable service standards for EV charging connections, increasing contestability and transparency in the connection process and improving network tariffs to better support public and flexible charging. Thank you.

**The CHAIR:** Great. Thank you so much. Were there any other opening statements?

**Ralph GRIFFITHS:** Just an addition: it is very important in that local government role in terms of enabling EV charging that there is that role around what parking restrictions sit around public EV charging so that people who are wanting to charge can access the sites and access them for long enough to put a meaningful charge into their vehicle.

**The CHAIR:** Thank you so much. We will move to questions. We might start with Ms Copsey.

**Katherine COPSEY:** Thank you. I might start with – I am very interested in your views on how we can expand the availability of vehicle-to-grid and vehicle-to-home access for apartment dwellers. I noted that there was reference to a scheme in New South Wales that you have got some experience of. Could you talk to that in a little bit more detail and what learnings we can take from that for Victoria?

**Ralph GRIFFITHS:** Do you want to take that one, Mabelle?

**Mabelle REYES:** I can take it. I am not sure exactly which trial you are referring to.

**Katherine COPSEY:** I will find it.

**Ralph GRIFFITHS:** There was a trial that had sharing of EV charging loads across multiple chargers – is that the trial that you are referring to? – so that you could have one charger. We did outline a couple of

examples in the submission. Mabelle, you might want to talk about the general space of enabling it for apartments.

**Mabelle REYES:** I can speak to it overall.

**Katherine COPSEY:** Thank you, and if I find it in your sub, I will refer back to it. That would be great in the meantime.

**Mabelle REYES:** We have embarked on a national energy market, across the NEM, V2G trial that involves both manufacturers of EV chargers, car manufacturers and also a number of DNSP partners in the NEM. And what we are trying to explore there is how to make V2G a customer-centric proposition that keeps the customer's needs in the centre. As part of that we have engaged with over a thousand customers to understand on what and how they would be engaging with V2G.

The V2G for apartment dwellers is challenged because it would be difficult for individual owners in an apartment building to be able to control specifically the connections between their vehicle, their parking spot and their energy plan. That is a challenge. We have done a smart charging trial in South Australia. It was more of a commercial fleet. What we were trying to do there was understand what behaviours were needed for basically the drivers of that vehicle to be able to use smart charging, or orchestrated charging, to optimise the charging – whether or not that would impact on the way that they use their cars generally. What we found was an understanding that certain behaviours, including being able to make sure that they are plugged in when they are finished, were the sort of sticky moments that happened. For the most part there was initial friction to get the behaviour right but then gradually there was increasingly more trust in the retailer, in this case AGL, to be able to orchestrate and be able to balance that load more efficiently and actually reduce costs for those particular commercial businesses.

**Katherine COPSEY:** Great. Sorry, I think I got the jurisdiction wrong when I was asking my question. That is interesting. I am interested in time-of-use tariffs and the experience you have had with uptake for general consumers. I think what we are hearing a lot through this inquiry is that EVs are coming through the early adoption stage and we are now looking at a wider section of the community utilising these assets. I think, similarly, vehicle-to-grid and vehicle-to-home charging are going to go on that same curve. In your experience, how engaged are consumers once they understand a bit more about the constraints of how our electricity supply varies across the day and their ability to interact with and either assist or add to the problem? Is there a general understanding of that from consumers, and what does the education journey look like?

**Ralph GRIFFITHS:** Mabelle, do you want to talk about our trials of the EV night saver and things, and then I might just wrap up on what it is generally around the regulatory space?

**Mabelle REYES:** Yes, of course. We did an early smart charging trial which was exploring whether or not customers would be willing to let a retailer control their charging and determine when it was best to charge their vehicle or not. We were not at that point; we were just charging at the time. But would they trust us to charge their vehicles at the right time or at least at the lowest cost moments to maximise savings? And we found increasingly that, yes, they could, but it was far more effective to give them a very clear price signal. For example, the night saver has a flat tariff between the hours of midnight and 6 am in which they could charge their vehicle for those 6 hours for 8 cents per kilowatt hour. We found the response to that – and we continue to see the response to that – being quite significant in that we have been able to shift up to 67 to 70 per cent of their charging time to that evening time. Overall, I think the energy shift to that off-peak time was close to 22 per cent of their overall electricity bill. So it was quite significant, and it helped reduce the potential load that that would have otherwise made. If they were charging, say, when they drove home and just plugged in at 6 pm at night, and at the same time everyone was showering and doing their dishwashing et cetera, that load would increase and increase peak demand, basically. By doing this and incentivising it and doing it very clearly in a way that could be programmed with the electric vehicle, we found that the response was very, very strong.

**Ralph GRIFFITHS:** Keep going if you have not finished.

**Mabelle REYES:** In terms of the opportunity for vehicle to grid, I believe that what we are trying to explore here is the opportunity to cut household energy costs. So when we went out and surveyed over 1000 people and asked them what they would be doing with v to g, it was more around lowering their energy bill based on the asset that they had, and the main difference between having an EV vs investing in a battery was that they more

likely had a vehicle because they are so used to having this as an appliance that they will use. So what was the opportunity to turn these into mobile batteries, and could that lower a bill if that was something that was enabled? When we asked them, we found that over 80 per cent of them were more interested in lowering their energy costs and improving their own home's energy security as a backup source and even potentially providing them with additional revenue, rather than vehicle to grid, which is a little bit more us using the vehicles as a VPP, or virtual power plant. But we had also seen that the more they interact with it, it is almost – they start with this idea that 'We will start with vehicle to home,' and then 'We will start by using it as a means of lowering the bill.' Then they start to get really interested in potentially supporting the community and the broader grid in terms of stability, once they understand it a little bit better, but certainly the initial thought is, 'How can I lower my bill, and get pay back on my asset?'

**Ralph GRIFFITHS:** Then broadly speaking – and that is answered – AGL really strongly supports time of use pricing as the way of sending signals to ordinary customers. It is simple. They can see what the price is, and they can understand the period. I think Victoria has got a 3 pm to 9 pm peak, then that is simple and understandable. Whereas there are other ways that networks and others are thinking about trying to send those signals. Customers do not really have in their mind what they can do for the grid. What they need to know is what price are they paying and how can they be better off at that time, which as Mabelle says, starts with them being in control, them scheduling their EV or other CER, any other customer energy resources they might have. Then over time, they might say, 'Well, actually, I'm more than happy to trust you to do that for me, as long as you make sure that my car always has an appropriate level of charge.' That study that Mabelle referred to really showed that you got more than 80 per cent of the benefit of control just through the price signal, then that creates an opportunity as customers are used to it and willing to lean into more direct forms of control and orchestration.

**Katherine COPSEY:** Thank you.

**The CHAIR:** Thanks, Ms Copsey. Mr McIntosh.

**Tom McINTOSH:** Hello. Thanks for being here. Good to see the largest portfolio of renewables in the country. I did not realise that, so that is good. Maybe just start there, just on the idea of evening consumption. Maybe look at now why Loy Yang A is still and in place, and post that. I have just done a quick google. You have got 2 gigs of wind on the way and then various things, which is exciting. From a renewable generation perspective, using that night-time consumption for your customers, how is that currently placed as far as renewable versus coal, and how does that look post 2035?

**Ralph GRIFFITHS:** The bulk supply system and the level of renewables in it will fluctuate daily. The night saver is really planned on that being a low-cost network time and a low-cost energy time for renewables in Victoria. That is the maximum – on average maximum wind production is overnight. Other plans like three for free in the middle of the day is more focused on the low-cost and high emissions in the middle of the day. Those sorts of simple plans will work well for shifting people to when renewables are primarily available. When we are at a fully renewable system, there might be a lot of opportunity to use EVs and obviously household batteries and things to more dynamically say, 'Today is cloudy, don't charge today,' 'Today is sunny, do charge today,' 'Today is windy', or not. Initially it is around the averages of it primarily being sunny in the middle of the day, primarily being windy overnight and the customer most of all wanting to save on their bill. We see it very much as our job to build the back-end system. Customers are leaning in with solar, batteries and EVs and all sorts of customer energy resources. AGL has a 10-gigawatt target to replace our coal with renewables and batteries and firming, so that customers always have electricity as and when they need it at a reasonable price, and as progressively we move to 100 per cent renewables over time.

**Tom McINTOSH:** So it would be fair to say 2035 – that is Loy Yang. You might have other –

**Ralph GRIFFITHS:** 2035 is the closure of Loy Yang A. 2033 is Bayswater for us in New South Wales. They are our two big coal plants, and they close by 2035. We will build a range of wind, primarily, because our customers bring a lot of solar, but across the market there will be solar, wind, batteries, pumped hydro and some residual gas peaking to cover the long duration where you get long periods of wind drought or other events. You always need some alternate backup.

**Tom McINTOSH:** Yes, indeed. I suppose I am just trying to get to – obviously Europe does not have the solar profile we do, and wind is operating at different times, and therefore you want to shift consumer behaviour to other times.

To put it up-front, I really like the fact that you are making – Mabelle, were you on a panel about a month ago on *Energy Insiders* that was rebroadcast? Was it or you or someone else from AGL?

**Ralph GRIFFITHS:** It might have been Jane Butler, I think.

**Tom McINTOSH:** Okay.

**Mabelle REYES:** Jane Butler.

**Tom McINTOSH:** Yes, so I heard that, and that was good. I suppose it is just to check in on that idea that we are building in consumer behaviour, and I note your earliest comment, where you said it will not impact supply or peak demand, which is good that you are modelling in not to impact on that. I suppose the question is: are we building in potential long-term habits to get consumers using the power at the wrong time of the day? Hence why I am just asking about your generation plans and models and whatnot.

**Ralph GRIFFITHS:** I will just make a quick comment, and I will give it to Mabelle also just in case she wants to add to that: EVs have proven to be adaptable as to when they can charge. The journey of taking people to a point where they trust providers to optimise that charge for them, rather than themselves, will help with that. I should also have noted that for home charging, a lot of people are optimising that around their own solar. Again, it is not necessarily behavioural things. When we say that consumers are in charge, often it is the car or the EV charging infrastructure at their home that will have the smarts in it, so your solar is producing now and will charge your car now.

**Tom McINTOSH:** Sorry, Mabelle, I will let you come. But effectively the technology enables that whatever time of day in the next decade, two decades, three decades, the most abundant form of electricity you will be able to offer your customers – at the moment you have got this somewhat fixed plan that you are putting forward, but over time you could change that to different times of day or just have it be 2 cents in the middle of the day or 7 cents at night and let customers choose. I am just interested in how that evolves over time, if I am understanding it correctly.

**Ralph GRIFFITHS:** Did you want to add to that, Mabelle?

**Mabelle REYES:** I can speak a little bit to it. I think to address the original statement, let us fast-forward to 2035, and let us just say a major coal plant that we are currently relying on for consistent supply is suddenly switched off. The grid will continue to be –

**Tom McINTOSH:** It would not be suddenly switched off. It is a 10-year plan to switch it off, sorry. And it does not provide consistent supply because they ramp up, ramp down, generators come off, like any form of generation. But anyway, continue.

**Mabelle REYES:** Exactly. I think what we are also building in is that flexibility to adapt to the volatility that that would create. As a result, you would then – our investment in grid-scale batteries, for example, does have a job to consistently maintain a level that will keep the grid running, because, as you say, we need to continue to have a level of energy that is flowing through the grid consistently. Our job on the demand side of energy is to try and flatten that curve and make that curve as predictable as we can. One of the ways that we hope to do that is through EVs – battery, solar – and to be able to increase the fluency in our customer base to be able to use these assets to, number one, lower their bills, but also to understand and help use that to increase our understanding of how to optimise the energy that we are now getting, so that if we do have to change their habits from, say, the middle of the night, they are now trusting the retailer to be able to shift it if we need to, or if we do not need to – for example, if there is adequate wind or there is adequate battery storage that is sustaining that grid stability, then we are able to use that. But certainly the big task in my team and my broader team is to make sure that we are building that capability and fluency to understand how we use solar, how we then use that to power our homes and how we use that to support the grid. I think that semi answers your question, perhaps not fully.

**Ralph GRIFFITHS:** I can give you another example too as to where a destination might be from a mature technology. Controlled load hot water has been around for a long time, and traditionally it was on a timer and it would turn on at the same time every day and the network would just lock it in. With several networks, particularly in New South Wales and South Australia, we are now working with them on orchestration of that hot water. Where the customer consents to having it orchestrated, they get the same or better hot water service, the network gets a better profile of charging, and we shift that charging around – or in that case, hot water heating, where it is like a battery – on a day-to-day basis on the basis of what today is like. So we might have a different charging schedule on a sunny day than a cloudy day et cetera, and that is smoothing it out for the network. It is actually giving people better hot water because they are getting an element of charging a couple of times a day to smooth it out.

Now, EVs will take their own path. Let us get people on price signals that are simple and easy to action, and then as trust builds and as the market develops, there will always be opportunities to refine that in the future. But I think if you were worried that we say, ‘It is always peak at 6 pm now’ – which we do; that is the network peak, and in 10 years time that is really hard to change. I think that is acknowledged, and I think we have that issue in the middle of the day where people had been trained to do things off-peak overnight. Changing and communicating with our customers what works best for them – really, they will not care that much about the system, they will care about what is best for them, and that is the lens we will put it on.

**Tom McINTOSH:** I think that is the beauty of the system you bring. While you might be able to get a slightly better dollar return by going to someone where you do a lot more yourself, the simplicity of what you bring in your model is good. But coming back to the question, it was just: are you able to move your customers over time to charge at the time that works best for the grid, hence keeping power prices down for everyone? I will just follow on from that. In your view – I think you said at the start more EVs equals lower electricity prices.

**Ralph GRIFFITHS:** More EVs equals lower total bills for people. They save on their petrol. They will obviously use more energy, so they might have a higher electricity bill, but they have a fuel saving. But for the general community more EV use across the same fixed network will lower the average bill to everybody. We have got a fixed cost in the electricity distribution network. We are already seeing that we can move the EV charging out of the peak, so it does not have to be expanded, so you are just putting volume down an existing system. And the more that they are revenue-capped, they get exactly the same amount of revenue – you know, a billion dollars a year – so the more volume, the more you divide it by, so the lower the average price per customer.

**Tom McINTOSH:** And then if we go to vehicle to grid, that can help lower those peak events again.

**Ralph GRIFFITHS:** That can further reduce the amount that the network has to spend either augmenting to grow the network or buying other services to manage voltage and things in the short term. So yes, some is better.

**Tom McINTOSH:** Which may not be the best for you, so it is good you are advocating for EVs even though it could slightly diminish your peak points. But anyway, it is good you are on that. I will let you go, Chair.

**The CHAIR:** Thanks, Mr McIntosh. I just have a few questions about the role of different levels of government and the part that they can be playing. Obviously we have councils and the state government and federal government contributing to the uptake of EVs and charging infrastructure in a range of different ways. Is it being done in the best possible way it could be, or is there a stronger role that councils or the state government could take on that would help in this space?

**Ralph GRIFFITHS:** Everything can be done better. That does not mean it is being done badly. We see state governments across the nation doing things that are positive to try and reduce cost, a range of councils doing things that are positive and the Commonwealth government doing things that are positive. There can always be better coordination; there can always be the left-hand, right-hand thing as well. So councils will be trying to encourage EV charging and they will be helping people put them in, but then another part of them might be putting the wrong parking restriction on the site so that either it is unrestricted and blocked or it has got too short a time limit – so not practical. Each state pretty much has some destination, some charging rollout

approaches, they are looking at for accelerating EV uptake. The Commonwealth has this program that is doing that. There is a well-recognised potential that some more remote towns might need services they would not otherwise get. I do not think we would say that there is underprovision against growth in most of the markets, but that does not mean that you cannot always accelerate that growth. The regulator is trying things, and again, we have a tension with the network where it is the monopoly, and it does set all of the standards and it can really self-deal to crowd things out. But we accept that this is an early stage, and we support trials and we partner with networks to get more charging out. Mabelle might want to talk to any of the examples, particularly in New South Wales. I am not sure if you can talk to anything about the Victorian trial at the moment, because that is still with CitiPower and in confidence. I do not know.

**Mabelle REYES:** We have been supporting a lot of Victorian charging opportunities. We do have, just through our own charging service, for example, an AGL charging app, where we make available a number of charge points in Victoria, including regional Victoria. We are actively working where our power development teams are working to construct wind farms and finalising hydro and batteries to ensure that those particular towns also have charging infrastructure. Certainly part of that is also just working with local councils to make parking and amenities available and to also reinforce how important it is to be able to engage with this and understand not just for AGL but for any charge point operator that wishes to make an investment to put in charging infrastructure that they are seen as not quite critical infrastructure but very, very important infrastructure, to be protected and respected and shared across the community as quite important, I guess, artery services to connect what we need to be able to support broader uptake of e-mobility and EVs across the regions.

**David MAGILL:** Can I give a lived experience in Sydney – an example where kerbside chargers are in but cars are parked in the street, and there is no dedicated parking bay allocated, or even two, alongside that pole, and it was in a partly permit or 4-hour parking zone. But there was one car next to it that probably had not been moved for the last couple of months, by the look of the state of it, and another one that was just there and who knows how long it could have been parked there. So whilst the pole charger was there, there was just no way of utilising it because there was no dedicated car space for EVs.

**Ralph GRIFFITHS:** There are a lot of programs. I am just checking if there were any in particular you were – I mean, you have obviously heard a lot of evidence, and you might have been looking at one area of coordination in particular. I just want to check, in case we have not covered it.

**The CHAIR:** No. I guess it is interesting to hear from a range of witnesses about the different levels of government and their input into charging infrastructure and supply and things like that, but it does not seem like it is a best-coordinated approach at the moment to achieve the outcome that is desired. So I was just keen to hear your thoughts.

**Ralph GRIFFITHS:** That is probably true of every public policy. We would certainly say there are two really important things that go there. Local governments control roads and they control planning, and that needs to be supportive. The state government controls a lot of land, but it also has, with the federal government, a strong role in the regulatory environment that sits there that makes it enabled through essentially the electricity distributors, which then have a monopoly in each of their areas. Whether it is for kerbside or home charging or fast DC charging, ultimately eventually you need the local distributor to connect it. They will take as long as they take, they will charge as much as they charge and then they will have a pricing structure thereafter. That is more of a state government role, to get that right, and for local government it is more about local land use and making available the right locations.

**The CHAIR:** Yes. Just in that vein, we have heard a bit about the barriers to apartment living and the ability to charge. I notice that you made comments about that in your submission as well. Do you want to talk about that a little bit?

**Ralph GRIFFITHS:** David wants to go to a comment, and then I will go to Mabelle.

**David MAGILL:** A couple of lived experiences, and other people I know have had the same one: you can get quite a lot of logistical barriers or further difficulty because the charger cannot go directly to the meter even for an apartment's smart meter in the building; it has to go behind the safety switch. That means it needs to be cabled up, conduited up, to typically the safety switches in the actual apartment. So it has to be cabled up to there, not directly to the meter. So that can add logistical barriers or expense, particularly in a larger building.

And then another one with apartments, particularly more recent apartments, is car stackers, and that can be problematic as well for cabling and safety matters.

**Ralph GRIFFITHS:** Mabelle, you had some discussion on apartments before. Did you have anything you wanted to add?

**Mabelle REYES:** Yes. We are working through various models for apartment buildings. I think there are a few short-term solutions that are coming into play, but what we are trying to address is, even in greenfield apartment buildings: how do we make sure that we are futureproofing for more and more EVs in there? But on the retrofits for apartments, there are a number of suppliers that are trying to address that specific problem. Particularly I believe there is Knox, there is Alchemy Charge, which provides for small chargers, and everyone can use the same charge point through a booking system. But I think what we are needing now is for apartments to be able to address: what if a number of apartment owners want to be able to access charging – what does that actually mean? It does mean strata decision-making and up-front costs are often a barrier. What solutions can we provide? I think as we move through there is a combination of solutions that would make sense. Having a single car park or couple of car parks available is fine, but as it increases it starts to become limiting, so I think it is more around how we support apartments and strata to provide either access to fast charging or kerbside charging and then in the building itself what can work. There are certainly a lot of barriers there, but there are a number of strata bodies that I think have been represented through councils, and I think they are doing really good work. But yes, it is definitely a barrier.

**Ralph GRIFFITHS:** I think overall, as delightful as charging at home is – and it is a better way of charging – as someone without it, I would say you are always going to need public charging as well. If you are not at home, if you are travelling in any form at all, you will need access to public charging. If you are primarily relying upon public charging, it is important to note that DC and fast charging also have a really important role to play there. Kerbside is often talked to about AC charging, and there is an idea that it is ubiquitous and will work for everybody, but it is important to remember that most cars – in fact every car that is not in the luxury car bracket – will have AC charging of 7 kilowatts or 11 kilowatts. It does not matter what the unit is that it connects to. So if that was your primary source, you are going to need 8 hours or more – or around – per week, depending on how much you drive, to charge it. So the idea that you are just going to scatter around your local suburb grabbing little 2-hour spots – it probably will not be for everyone. There will be a need for the higher speed DC charging where you can fill your car in half an hour or so, whether it is at your shopping centre or other locations.

**The CHAIR:** Mr McIntosh.

**Tom McINTOSH:** Can I follow straight on from that? I am just trying to start off by saying I think, as I said before, the program you are running to simplify and get people in and electrify their transport is really good, particularly when we heard in a previous hearing that once a car is in the market it is there for 20 years, so if it is not purely electric at the moment it will be in time and whatnot.

On the DC side of things, I feel like our petroleum suppliers, our service stations, are sort of missing out. We have not heard from them. I do not know what they are telling their shareholders about why they are not getting into a rapidly emerging market. From all the evidence we are hearing, EVs are going to be more and more of new cars sold, and then as cars drop out the back end it will be a bigger and bigger part. I am just interested, is that something you have considered getting into, that sort of high DC charging? I understand some of that might be private for you.

**Ralph GRIFFITHS:** I will start with Mabelle, who heads that area, then I might wrap around on some of the regulatory issues.

**Mabelle REYES:** Yes, for sure. AGL has a large C&I – commercial and industrial – customer base, and they have come to us requesting that we support them in – for example, if they happen to be a major retailer that has a big car park in front of them – rolling out EV charging. In those instances, we would work with them to support both battery storage, solar and also EV charging to ensure that they are moving towards their sustainability goals.

The primary difficulty we have is access to land, which, as you say, the traditional oil and gas businesses will have more ready access to. So for us it is more around being able to stimulate that interest from them and, I

guess, general landowners and people who have access to car parks that people have been accustomed to going to, and whether or not it is AGL installing it or them installing it, somebody needs to make that commercial investment. I think that is the key. As you say, if they are not thinking about it, they probably should be deeply thinking about it: what is the opportunity for them as more and more vehicles come?

I do believe that there is definitely commercial interest. As fast DC charging becomes more of a proposition and these cars can turn around in the times – 15 minutes, 20 minutes, 25 minutes – the fast-food restaurants and the highway service centres where people naturally stop seem to be perfect places for these types of locations. I do believe that there are definitely businesses interested in investing the capital and being a charge-point operator of scale. I think the key there is really making it easy for them to be able to make those capital investment decisions and be able to actually construct and build them as quickly as they can. It is a lot around enabling and unlocking connection requirements, planning, council approvals, all of those sorts of things, just to make sure that there is an opportunity. We should make it as easy as possible for them to be able to do that, because that is certainly what we have faced when we have tried to install DC chargers for our customers, to try to get the connections done as quickly as we possibly can, and it is often the approvals and achieving installation in the timelines that we hope that is what is lagging.

**Tom McINTOSH:** I want to come to DNSPs. I note your comment in your submission. I hear what you are saying on the service station model. I also do think, particularly for a lot of our regional towns, of that opportunity to bring in that bit of sticky tourism for, as you say, 20 minutes, particularly for families travelling with kids – get out, go to a playground, a local bakery, that sort of thing. We see towns like Cann River and the fast charging stations there. When you talk about getting the land and about local council, is there a bit more needed to help bring that together? Do we need a bit of identification of locations, sites of electricity capacity, and to sort of say, ‘Here is a site the local council supports. Here is a site that is a nice, pleasant place for people to stop for 20 minutes’ – public toilets, parks, whatever? Do you think there is anything missing in that space, or do you think the private market can identify and bring that together themselves?

**Mabelle REYES:** I believe the private market would have difficulty in finding those locations themselves if they do not readily own them or already have operations on them in some way. I think there is a piece of work there in identifying where they are and how easy it is to have a ready-made network connection or an easy upgrade for a network connection and be able to install appropriately. I do not think it is that easy.

**Tom McINTOSH:** Is that something government could assist with, do you think?

**Mabelle REYES:** I believe so, yes.

**Tom McINTOSH:** Yes.

**Ralph GRIFFITHS:** That fits with state and local, and the pressure that state government can put on the DNSP to make those connections available. You started with the petrol stations, and at the risk of talking for others, when you spend a lot of time in the regulatory space, you hear from them consistently, like what Mabelle said – many of them have sunk quite a bit of capital into station upgrades but are unable to work through getting connections. There are issues with the Victorian service installation standards and things that stop them having two lines into the one premises: they have got an existing connection, and they need another one to put it in a dedicated – there is a whole range of barriers there that will probably get worked through, but it is certainly a role of government and the regulator to try and help that through with the distributor and, yes, definitely with state and local governments in terms of that sort of tourism location. In a town, the town council would be ideally placed to identify in their region where they want the parking, because they will decide where the parking is, and then getting electricity to the parking and trying to optimise across those. But most small towns have good electricity connections, and large regional centres as well – it is not just small towns; it is large towns and cities. This same logic would apply to urban shopping strips as well. They have a desire to bring people in to the shopping strips, they tend to have car parking available near that and have built that over time to encourage people to come along. Then they need to enable the charging solutions in those locations.

**Tom McINTOSH:** It is a simple philosophy, I suppose: where are people happy to or want to spend X amount of time that is required as per the charger? Sorry, if I can just ask one more question on the DNSPs: we have heard pretty scathing – I do not think there has been any positive feedback on the DNSPs, and we are on day four now of the hearings, so I was interested just how the DNSPs in Victoria are comparing to New South

Wales and other states. We have heard Victoria is particularly complicated, with delays of up to two or three years and higher costs. So, over to you.

**Ralph GRIFFITHS:** First, DNSPs are our partner, and we work with them all the time, so this is a new thing. One of the things about being a regulated monopoly is you are not very good at changing anything to do anything new. The other thing is there is no incentive on them to do anything in this space, so they are still trying to work out what they should do. They have a natural sort of overreach of trying to jump in to do things to see if they can get an unregulated revenue stream. But in terms of having any fundamental requirement to connect quickly and at a reasonable price, EV charging is just not something that was thought of 10 years ago, so it has not come through. There are reasons for it, but in general there is a huge opportunity to simplify, streamline and improve in that place. As a regulated monopoly, a lot of that will sit in regulations, which is to say: standardise your EV connections. Say you want to do a 22-kilowatt or a 50 or 100 – this is the cost and the time that it will take to do it. Make the information available to the market in an intelligible form. Where is it possible? Where are constraints? Where are places that you are willing to host this infrastructure and you can get it in quickly? At the moment people have to go out and apply one by one, site by site, wait a while and get told ‘No.’ What people want to know is where they can go. They have already got their properties; they can look at it and decide where to go. So it is really important to get that down. I think the New South Wales one you hear a bit about is in New South Wales there is a lot more contestability at that connecting into the network side, where essentially you can get lots of private contractors who can do the network connection more deeply than you can here in Victoria where you are reliant upon the DNSP. Those things are complicated, but there is obviously an opportunity to try and improve the service standards and contestability at that connection side, but the easiest place to start is making sure that they are incentivised to do it and making sure that they make the information available. Sorry, I can tell you are just –

**Tom McINTOSH:** No, that is all right. I just want to pick up on that point, because I do not think it is something that has been expressly identified before about contractors. I think I have heard anecdotally before, but just talk us through that with a little bit more detail about that opportunity for contractors versus the DNSPs.

**Ralph GRIFFITHS:** You will quickly get out of my level of knowledge. I do not contract this work; I sit in a lot of forums where people who do contract the work talk about it, but my understanding is in New South Wales the DNSPs have a system where they have accredited service providers who you can contact to get to do the connection into the grid, whereas in Victoria the point at which the DNSP takes control is further along. I do not know, Mabelle, if you have been doing any contracting in this space to elaborate on that.

**Mabelle REYES:** No, not necessarily. I think those relationships are mainly held with our metering contractors. So no, not necessarily.

**Ralph GRIFFITHS:** I know you have got Stephanie Bashir in this afternoon, and I am sure she will be happy to elaborate later on it.

**Tom McINTOSH:** That is very helpful. I have taken up far too much time. Thank you.

**Katherine COPSEY:** No, it is fine. My last question is a quick one, because I found the reference in your sub that I was thinking of earlier, which is the New South Wales EV-ready buildings scheme. I clicked through to the link, and it provides incentives around apartments, switchboard upgrades and assistance. I just wondered if anyone on the panel this afternoon has experience with how that is being taken up and how that is helping overcome some of the apartment issues that we were hearing about before.

**Mabelle REYES:** Unfortunately, I do not have any background on that one. Sorry.

**Ralph GRIFFITHS:** Sorry, I do not have anything beyond what we had in the submission. We went around to find out and we have not updated on that. I am certainly happy to get back to the committee with updates, if that would help, but we are not directly involved in it.

**Katherine COPSEY:** No, that is fine.

**Ralph GRIFFITHS:** I do understand that the building minister has rolled back a previous decision to make apartments EV-ready a month or two ago.

**Katherine COPSEY:** Here in Victoria?

**Ralph GRIFFITHS:** No, nationally – a building code.

**Katherine COPSEY:** Right. That is disappointing.

**Ralph GRIFFITHS:** Well, I am sure they had their reasons.

**Katherine COPSEY:** I am sure, though my observation would be that when buildings have not been designed with this technology in mind, it is much more costly for the consumer to be retrofitting and putting that responsibility on a bunch of householders rather than embedding that in building industry experience. It would seem much more efficient to me for Victoria to be requiring that and facilitating retrofits where possible. Looking at what New South Wales has available, it looks like, as part of their equivalent energy upgrade scheme, they have a range of incentives for strata buildings to take up around switchboard upgrades. Is that something you would be interested in seeing in Victoria?

**Ralph GRIFFITHS:** Absolutely. And we put the example in because we thought it was a sensible example of how you would fund it. The energy efficiency scheme in New South Wales is fundamentally different to Victoria. But the concept that there is a well-recognised barrier to uptake in strata developments because of having to deal with the body corporate, because of the cost, because of all of the complexities, and the question you had earlier as to how you get the vehicle – well, you are not going to get the vehicle to the apartment thing. But yes, we recognise that as a well-established barrier. And a study to look at how to best address that and which tools Victoria has – we would support that, yes.

**Katherine COPSEY:** Thanks.

**The CHAIR:** Thanks, everyone. That is all we have time for. Thank you so much for coming along and answering all of our questions.

**Witnesses withdrew.**