

Standing Committee on Climate Change, Energy, Environment and Water

Answers to questions on notice

Climate Change, Energy, the Environment and Water Portfolio

Inquiry: Inquiry into the transition to electric vehicles
Question No: IQ24-000112
Hearing Date: 28 June 2024
Division/Agency: Emissions Reduction Division
Topic: Regulations for electric vehicle charging prices
Hansard Page: 7-8
Question Date: 28 June 2024
Question Type: Spoken

Mr Zappia asked:

CHAIR: My other question was: who will regulate the pricing of electric charging at the charging stations once they're in place, or will there be no regulation?

Ms Rowley: I think I'd need to take that on notice. Obviously, all commercial activity in Australia is subject to general laws, including things like the Trade Practices Act. That would apply just as much to the operation of charging infrastructure as it applies to petrol stations, for example. Is it regulation in a manner analogous to regulation of petrol prices?

CHAIR: No. There is a difference, as I see it, in as much as, if a private operator wants to set up public charging stations, I suspect they would be free to charge whatever they want right now. With petrol, there are a number of factors which tend to ensure that there is some parity and some control if for no other reason than that there is some competition, and generally most of the petrol outlets stick to a price that is comparable with each other's. But, getting back to Mr Repacholi's comments about country charging stations, I can just picture someone out in a position where there is no competition that will say, 'That's my price.'

Ms Rowley: I'll take on notice whether I can provide anything in addition. But I would note that there are a number of different technology solutions coming forward to help consumers to be able to understand and assess their charging options—for example, apps where you can search for your nearest charging station that provides information—

CHAIR: I understand all of that, but that doesn't really answer the question.

Answer:

Electric vehicle (EV) charging costs are based on kWh (a unit of energy). EV charge point operators determine the cost to consumers based on the cost of supply plus a determined margin, like other for-profit businesses across the economy. At this time, there are several EV charge point operators across Australia, and prices at fast chargers range between 40 and 80c/kWh. Charge point operators currently operate in an open market, so these prices reflect the dynamics of supply and demand.

A key driver of EV charging costs is the cost of electricity as supplied by the electricity distribution network service businesses through electricity tariffs. Network tariffs are approved by the Australian Energy Regulator.

All charge point operators are subject to the same competition and fair trading regulations as other business operating in Australia, including petrol, diesel and automotive LPG businesses. There are more than 900 fast and ultra-fast EV charging locations available across Australia today, and this number is growing. Increased availability is expected to bring more price competition and consumer choice.

The Energy and Climate Ministerial Council has agreed Minimum Operating Standards for government-supported public EV charging infrastructure. These standards include requirements for transparent pricing. In particular:

- all Direct Current (DC) fast charging sites must clearly express the charging unit's pricing in cents per kWh, and
- the pricing must be visible without the payee requiring mobile or internet signal to access the pricing.

Some charge point operators also indicate pricing for each of their charging locations via their proprietary mobile phone applications.

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Inquiry: Inquiry into the transition to electric vehicles
Question No: IQ24-000113
Hearing Date: 28 June 2024
Division/Agency: Emissions Reduction Division
Topic: Servicing of EVs
Hansard Page: 8-9
Question Date: 28 June 2024
Question Type: Spoken

Mr Repacholi asked:

Mr REPACHOLI: My questions are around servicing of EVs, which is going to become more and more prevalent as more EVs come onto the market. What are we doing to help the maintenance of EVs and help turn mechanics into electrical mechanics or whatever you want to call them? What are we doing to help that work there? Not all mechanics can work on EVs. Ms Rowley: It's not one of the current streams of work under the National Electric Vehicle Strategy. I'm not sure if it's picked up under the broader work program. I'd probably have to take that on notice for you.

Answer:

The Australian Government has established the Mining and Automotive Skills Alliance (AUSMASA) – one of 10 Jobs and Skills Councils working with industry, regulators and standard setting bodies to ensure nationally recognised training packages reflect the evolving needs of the automotive industry, including to support electric vehicle operations, maintenance and repair.

The Government is also investing \$14.5 million, together with \$9.7 million contributed by the Australian Capital Territory Government, to establish Australia's first TAFE Electric Vehicle Centre of Excellence at the Canberra Institute of Technology (CIT). AUSMASA, along with other key partners Tesla and Komatsu, has committed to work with the CIT to support the design and delivery of industry-relevant training products, apprenticeship pathways and job pathways for graduates.

This Centre of Excellence will be a leader for the nation on electric vehicle skills, industry best practice and resource development, with learnings and products to be shared with other Centres of Excellence and all other TAFEs through a National TAFE Network to be established under the National Skills Agreement.

These training and skills programs are administered by the Department of Employment and Workplace Relations.

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Inquiry: Inquiry into the transition to electric vehicles

Question No: IQ24-000114

Hearing Date: 28 June 2024

Division/Agency: Emissions Reduction Division

Topic: Fast charging

Hansard Page: 9

Question Date: 28 June 2024

Question Type: Spoken

Mr Zappia asked:

CHAIR: Just getting back to the fast charging, right now, what's the fastest fast charging system available? Are we talking about 15 minutes or 10 minutes? What would be considered 'fast charging'?

Ms Rowley: In terms of what the fastest is, I would need to take that on notice. I apologise, but I don't have the stats. I'll just check whether my colleague online has it. Daniela, do you have anything specifically on that? I don't think we do, but we have experts in the team who can very happily bring you some facts and illustrations. Are you interested just in the Australian context, or are you also interested in the overseas experience?

CHAIR: I'd be interested in what's available overseas as well.

Ms Rowley: Okay. We're very happy to provide some information on that.

Answer:

Definitions vary, but fast chargers are typically considered to include those with a rated power output of 50 kilowatts (kW) or more. For light vehicles, the fastest electric vehicle chargers deployed at scale in Australia and internationally have a maximum peak output of 350 kW of direct current. This matches the fastest-charging cars available in Australia (such as the Hyundai Ioniq 6, Ioniq 5, Kia EV6, EV9 and Audi E-Tron GT) which can charge at a peak rate of up to 350kw.

The peak charging speed is determined by either the charging unit, or the vehicle. The maximum peak charging rate for an individual vehicle depends on the battery design and the voltage rating of the vehicle. The vehicle and the charger 'communicate' so that the power delivered does not exceed the vehicle's power limit at any given time.

Actual charging rates are typically lower than the maximum rated output of the charger. The charging rate varies with the state of charge of the battery, typically starting at the maximum rate the vehicle can accept from that charger, and gradually dropping as the state of charge increases. The charging rate also depends on battery temperature and are fastest between 20-80 per cent state of charge, which is the operating range most manufacturers recommend.

Most battery electric vehicles have a claimed charging time between 20-30 minutes from 20-80 per cent state of charge when using a fast-charger capable of supplying power to the vehicle at the vehicle's maximum rate. The vehicles's electrical system and battery sizing tend to be calibrated to achieve a practical charging time within this range, which provides a balance of charging time and vehicle cost. Some vehicle manufacturers such as Hyundai claim a charging time as low as 18 minutes from 10-80 per cent of charge for some vehicles.