



NSW & ACT

IPWEA

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Legislative Assembly
Committee on Transport and
Infrastructure

By email

transportinfrastructure@parliament.nsw.gov.au

Dear Committee on Transport and Infrastructure,

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

I write with reference to the *Inquiry into infrastructure for electric and alternative energy source vehicles in NSW* and the subsequent call for submissions from interested parties.

As you are aware, the Institute of Public Works Engineering Australasia (NSW & ACT) ("the Institute"), has a long history of engaging with government on matters relating to roads and transport, noting that the Institute represents a significant number of public works professionals who are responsible for the local government road network and transport sectors.

With respect to the terms of reference of the inquiry looking at existing and future infrastructure needed to support electric and alternative energy source vehicles across New South Wales, we provide the following commentary.

If you have any further questions regarding the feedback provided, please do not hesitate to contact the Institute. We would welcome any opportunity to discuss our recommendations in more detail in person.

Yours sincerely,

The Hon David Elliott
Chief Executive Officer
IPWEA NSW and ACT

Mr Joshua Devitt
Chief Engineer
IPWEA NSW and ACT

In response to the terms of reference of the *Inquiry into infrastructure for electric and alternative energy source vehicles in NSW*.

a) funding and location of electric vehicle chargers or infrastructure for other potential energy fuel sources

The nature of electric vehicle charging, in particular the longer timeframes associated with charging as compared to petrol or diesel refuelling, lends itself to a different model of refuelling compared to traditional practices. There is still a need for high capacity, high-speed charging stations which will act in much the same manner as existing petrol stations today. However, these will largely cater to those undertaking long distance time-critical travel. To cater for shorter distance, less time critical travel there will remain a need for long-stay charging facilities. These will encompass a range of solutions such as at-home charging, at-work charging and public or private kerb-side charging.

At home charging is most easily facilitated in detached or semi-detached dwellings with individual garages, however it presents a problem for residences without dedicated parking facilities, or for those with shared garages such as apartment complexes. Consideration should be given to mandating the provision of vehicle charging facilities within new residential apartment buildings, and to addressing the associated insurance and cost implications with this proposal, whilst also putting safeguards in place to manage the increased severity of EV battery-related fires and the challenges they present to emergency services. At work parking will largely remain the domain of the private sector, but local councils are well positioned to take a leading role in the provision of kerbside charging facilities. However, it is necessary to review the current legislative framework in order to streamline the approval process for such facilities, and also to clarify the roles and responsibilities of energy distributors and retailers, as well as road managers, for charging infrastructure located in the road reserve. Additionally, the liability and risk associated with on-street charging facilities remains unresolved with respect to who will be the owner of the assets, along with who will be responsible for any third-party damage or injury claims.

With respect to funding, there is a risk to the rollout of EVs if left entirely to the open market, with the potential for a negative feedback loop occurring. Many of the current grant opportunities to support charging infrastructure rollout are still underpinned by the need for strong commerciality aspects. This disadvantages smaller communities or communities where there is a low EV uptake. The absence of public charging may well also be a barrier to EV uptake and in this situation a 'build it and they will come' approach is required. The market will take care of those areas where the business case stacks up, State Government needs to take care of those areas where it doesn't, until such time as market penetration/saturation tips the balance in favour.

b) the viability of alternative energy sources for freight, heavy vehicles and other licenced vehicles in regional communities

The use of alternative energy sources for freight and heavy vehicles is not yet viable in regional communities, largely due to the location and volume of vehicle charging infrastructure. In order to support the main two modes of freight operation in regional NSW, additional charging infrastructure is required at regular intervals along high-volume line haul routes, as well as at centralised locations to cater for local last-mile distribution. These facilities will vary depending on the specific needs of freight operators, but will likely include high-speed charging or refuelling stations, as well as battery quick-swap facilities.

When considering light vehicles in regional communities, it is worth remembering that the vast majority of light vehicle trips, even across regional areas of NSW, can be accommodated within the travel range of currently available electric vehicles. It is also expected that travel range will increase as electric vehicle and battery technology improves over time. As such, provided sufficient charging infrastructure is available in regional towns and villages, along with a corresponding increase in at-home charging facilities, there will be minimal impact to the light vehicle fleet in regional communities in a transition to electric or alternative energy sources.

c) use of existing infrastructure and measures to ensure a competitive market, including 'ring fencing' policies

IPWEA NSW & ACT supports the retention of existing energy market ring fencing policies but note that there could be scope to review these under an arrangement whereby energy distributors directly partner with local councils to deliver charging infrastructure and services to the benefit of the council and their community. This is particularly relevant as we note that there is interest in mounting charging stations to existing assets in the road reserve, such as utility and light poles to support kerb side charging. Such an arrangement would be streamlined if councils as the road managers, were able to negotiate directly with the network distributors who own these poles, rather than involving a third-party retailer. Providing these services at low cost to ensure equitable access for residents would address concerns around anti-competitive behaviour.

Furthermore, there is a significant amount of risk in publicly available, privately provided charging infrastructure, with charge point operators (CPOs) seeking to shift some of this risk through contracts onto councils via provisions which place too great a responsibility on councils to manage this infrastructure if the CPO either has to abandon the infrastructure or becomes unviable/insolvent. IPWEA NSW & ACT would support a review of funding to apportion some of the collected levies toward a reserve or guarantor arrangement such that CPOs have confidence to install their infrastructure in public carparks, but councils aren't so heavily risk-exposed.

d) measures to ensure the transition of workers from affected industries and industry standards; and

IPWEA NSW & ACT are supportive of the development of industry standards that could reduce the burden on local councils implementing electric and alternative energy supporting infrastructure. This could include standardisation of vehicle charging stations, as well as standardisation of processes and approvals relating to the installation of these stations.

e) any other related matters.

Beyond the matters outlined in the terms of reference above, IPWEA NSW & ACT believes it pertinent to raise the following matters in relation to this inquiry:

- As the NSW vehicle fleet transitions towards zero-emission vehicles, there will be a corresponding decrease in the fuel excise tax, which will require reform to the manner in which vehicle users are charged to recoup the costs associated with maintaining the road network and its supporting infrastructure. Whilst it is acknowledged that this is a federal government responsibility, any changes to this scheme could have major implications for the setting, monitoring and collection of electric vehicle charging rates across NSW.

- On a related point, the roll out of zero emission freight vehicles will have major implications to the ongoing maintenance and useful life of road assets, due to increased axle loadings largely from the weight of batteries. IPWEA NSW & ACT are supportive of funding mechanisms to address this issue, including the potential for road user charging schemes. The institute is also supportive of changes to NSW pavement design standards to require consideration of increased vehicle loading for any new road pavement design.
- Finally, consideration should be given to investigating the projected increase in demand on the NSW electricity grid as electrification of the NSW vehicle fleet expands, with a particular focus on the capacity of the grid to support this transition and the amount of charging infrastructure that would be required to service these vehicles.