Response to State Government draft transport plan for emissions reduction

Submitted by the Australian Electric Vehicle Association (AEVA), Tasmania Branch

AEVA supports the direction of the proposed plan which it considers is broadly on the right track. The comments in this response are of detail, extension and emphasis rather than a radical departure from what is proposed.

Public Transport

AEVA strongly supports increasing use of public transport and active transport. Comments on current actions and future opportunities are:

1. Recently announced support via grants for e-bikes, scooters and other personal mobility devices is welcome and should be sustained.
2. The limited scope of safe bicycle paths remains a major barrier. We note the recently completed and still under construction paths along the northwest coast eventually linking Latrobe through to Wynyard and potential further extensions and commend this.
   However, to be effective in reducing personal car use we ultimately need a network of paths that enables routine transport within communities, not just between centres and for recreation, as noted in the Draft Plan. These paths might initially focus on supporting widespread, safe access to schools, encouraging children and adolescents to travel to school independently and ingraining personal transport as a habit. The paths can then be extended to service local shops and into town centres.
   The Bicycle Network and other local groups are informed partners to assist in planning routes.
3. Some road users display a lack of respect for vulnerable road users including pedestrians, cyclists and other personal transport device users. This is in stark contrast to some European countries where vulnerable road users have an absolute priority over heavier vehicles. A combination of education and regulation is required to promote a culture shift. Some consideration needs to be given to ensuring regulations support compatibility between the variety of road, footpath and cycle path users, including the relatively novel electrified personal transport equipment with emphasis on protecting the most vulnerable.
4. The issue of dispersed population inhibiting the viability of public transport can only be addressed gradually, via planning policies that encourage denser development along main transport corridors in larger centres as noted (point three under current action). This is a key part of the plan for the long term.
5. While the bus trials are noted, there is already widespread use of electric buses globally. More emphasis should be placed on implementation, with development of a plan and budget to transition the fleets as soon as practical. Some focus on planning for large scale capacity for charging fleets of buses is required. There is a tie in with the electrification of heavy vehicles (see later section).
6. We support ferries as an amenity and lifestyle choice and as an appealing addition to public transport options. However, ferries are likely to have a limited impact on congestion and may not reduce emissions per passenger kilometre unless they are electrified. Ferries in Norway are increasingly electrified and can provide a precedent for how this can be done.

Increase number of low emission cars and other light vehicles

Tasmania is among the leading states in Australia in making the transition to EVs for personal passenger transport, albeit nationally Australia lags most OECD countries. Tasmania's relative progress has been driven in large part by the early statewide coverage of fast charging infrastructure combined with the introduction of large numbers of used EVs imported from overseas, making more affordable EVs available sooner. Both have been well supported by past State government initiatives, with additional support from the Commonwealth Government.

The extent of uptake by the car rental industry is notable. Participants in this industry have specifically identified the statewide charging network as key to their decision to accelerate EV adoption as a share of their Tasmanian fleets in preference to other locations. Electric Highway Tasmania (EHT) have informed AEVA that rental vehicles now account for about one third of charge sessions on their network.

The network has also attracted favourable comment from EV tourists: https://thedriven.io/2023/11/08/driving-tasmania-is-ev-heaven/ Interstate drivers account for about 20% of the charging activity on the EHT network. The combination of rental and interstate drivers accounts for about half of the State's fast charging use, clearly a win for the move toward sustainable tourism.

Fast chargers

Tasmania now has a good network of public fast charging stations, but it needs to continue to grow. Range anxiety is being replaced by availability anxiety: will the charger(s) be working and not all occupied?

Any future incentives need to support building a commercially viable network. With current volumes, most sites are not yet profitable. To become profitable use per site needs to increase, but this is in tension with increasing levels of queuing, adding to availability anxiety. The solution to this tension is to have sites with three to eight bays where high levels of use can coexist with confidence in availability.

It is notable that the busiest sites experiencing the greatest queuing are mostly in the four larger urban areas (Hobart, Launceston, Devonport and Burnie), with most regional sites lightly used. Exceptions to this broad pattern are the heavily used Campbell Town and Swansea sites.

The recently discussed national guidelines for government funded sites are an important move in the right direction. This is as reported by *The Driven* on 27 November: https://thedriven.io/2023/11/27/australia-cracks-down-on-ev-fast-charger-reliability-to-beat-range-anxiety/

Building sites at scale Future support for EV fast chargers in Tasmania should therefore place an emphasis on larger sites in heavily used areas as a priority to support commercial viability and minimise reliability anxiety. Communities will warrant having new sites at scale include Wynyard, Penguin, Ulverstone, Huonville, Longford, etc. These should be supported to have new sites established with a minimum three bays for EVs to charge at once as a threshold.

Building capacity Busy established sites need to be expanded. For busy established sites with proven current demand and expected medium to long term growth, there is an opportunity to move from grants to loans with graduated repayments which may make better use of government funds. Well located sites can repay loans via growth if the loan has a schedule of escalating repayments: in the first year, interest only, with rising capital repayments with each successive year. Repayment in full over seven

years should align with both charger lifetime and the growth in demand that enables repayments to be made. Interest rates can be set at (near) commercial levels, with the Government effectively only supplying the guarantee to lenders and a small subsidy, if any. In the event default, the site equipment could be offered to another operator to make repayments and operate the site.

Reliability/availability standards Public EV fast chargers have often had a reputation for being unreliable and out of service. This can result in users being stranded and deter EV adoption. There have been a few Tasmanian sites notorious for being out of service for long periods.

EV fast chargers are increasingly becoming a critical service as EVs become more widespread. AEVA supports the introduction of minimum availability standards for chargers receiving government funds, with 98% being the lowest level of availability to consider (not available 7 days and 7 hours per year), and 99% (not available 88 hours per year) or higher being preferred. There needs to be a clear framework for any such standard including consideration of:

1. The standard applies to maintaining at least 50% capacity at a site, not individual chargers within a site, averaged over a year.
2. User correctable faults such as emergency stop buttons being pushed by passers-by should not be counted as down time.
3. Communications outages that affect use by customers should be included in down time. We note that Electric Highway Tasmania (EHT) makes chargers free to use if communications are lost.
4. Down time caused by a general power outage should not be counted against the charge point operator.
5. If a slow repair is due to a supplier’s failure to supply parts this should be noted and the supplier blacklisted if the issue proves to be persistent.
6. There need to be clear consequences if the guidelines are not met.

No community left behind While generally emphasising scale for commercial viability, availability and user confidence, some communities need to be served but may not be able to justify such scale. These include smaller centres such as Hamilton, Bothwell, Nubeena, Mole Creek, Poatina, Bridport, Gladstone, St Marys, etc. Having charging widely available in these small communities encourages travellers to stop and serves local residents without the ability to charge at home who otherwise may need to travel some distance to a larger centre to charge.

EHT has used 24kW DC plus 22kW AC chargers in such small centres (Waratah, Tulla, Fingal, etc.) to ensure a dense geographic coverage of the state. This approach can provide cost effective access to charging in smaller communities with a degree of reliability/redundancy by having two chargers. While commercially marginal this approach can usefully test the level of demand at smaller sites – which sometimes surprises. Sites should be designed to grow should future demand warrant it.

Long vehicles/trailers There is an increasing need to accommodate longer vehicles (e.g. motorhomes) and EVs with trailers. These have not been a priority to date as few EVs have had trailer pulling capacity and EV motorhomes have not been on the market. However, there is an increase in comments by users of these vehicles that most current sites cannot accommodate them.

Drive through formats to accommodate these vehicles require larger, more expensive sites. It is proposed that locations for a network of such sites be identified to serve areas with high boat and camping use. Making pull through sites a requirement at every location of a certain size is not supported as necessary or cost effective.

Accessibility It is generally not practical to offer a dedicated, restricted use accessibility bay at a site with up to eight bays as it quarantines use of the bay. At the same time, if only one bay in a group is wider for accessibility, it may be occupied when a user that really need it arrives.

A significant proportion of EV users have mobility issues, not just those with a formal ‘disabled user’ designation. We recommend that wherever possible, at least two and preferably up to half of bays at larger sites be at least 3 m wide, rather than the more common 2.6m. While not formally designated as accessible and restricted to this user group, this will permit most users with mobility issues greater ease of access. We also encourage designs that minimise obstructions such as bollards and kerbs to further aid accessibility.

Premium specifications Ease of use and amenity are important to users but not always cost effective to operators. Features such as credit card readers and shelters make sites more attractive and consistent with the expectations set by conventional fossil fuel service stations.

A premium should be offered in any grant programs to sites that offer drive through, accessibility, credit card readers and canopies to encourage provision of these features. For example, grants to sites that specifically offer access to longer vehicles would qualify for enhanced support, say 25% more than for ordinary standard bay layouts to cover some of the additional costs.

In general we encourage a competitive tender approach, where the offers that provide the greatest **value** for taxpayer dollars spent in meeting program objectives are awarded grants, within the envelope of funds available for each designated area of support.

Other chargers

Public fast chargers should represent a small part of total charging activity and capacity. Charging at home or at visitor accommodation when travelling should account for the most charging needs.

Cost barriers For many people charging at home is not difficult and little or no assistance is required to achieve this. Incentives such as extending the Energy Saver Loan Scheme to home EV chargers can help bridge any cost gap for these households. Support should require that chargers installed be ‘smart’ chargers, capable of responding to opportunities to manage demand or use solar surpluses efficiently. The requirement for home charging management may become more critical with widespread adoption of EVs.

Other barriers For those living in some circumstances, cost is not the main barrier:

- Apartments,
- Homes without private off street parking, and
- Renters

For these households there needs to be some regulatory changes to ensure that they can charge at home. For existing dwellings with private off street parking, this would include the ‘right to charge’, where a body corporate or landlord cannot preclude a resident from installing EV charging, subject to safety and other requirements. It may specify that this is to be at no cost to other residents or the landlord via suitable cost recovery arrangements.

For new construction it would be by mandating arrangements that ensure the ease of installation of charging as required in the future as residents adopt EVs.

Dwellings without private off street parking There needs to be provision for kerbside charging or charging in suitable suburban car parks. This will need appropriate parking arrangements by local government. We suggest that there be three grants offered for three suburbs in different LGAs with a minimum of eight AC chargers in each. Councils, potentially in conjunction with commercial providers, can offer their preferred solution covering charger location/format/power/control, parking provisions, payment arrangements etc. The three winning sites would then provide demonstrations of these options for other councils to learn from.

Visitor accommodation At present relatively few accommodation providers offer charging to guests. Overnight charging is both more convenient and cheaper than public fast charging. Accommodation providers should be able to offer charging to guests at prices below what is charged by fast charge networks and make a profit. Modest incentives should be offered, as in past ChargeSmart grant schemes. However, the greater impact may come simply by educating providers of the opportunity.

Purchase incentives

As noted in the introduction to this section of the Draft Plan, initially there were restrictions on supply. In this case incentives that drive unmet demand risk pushing up prices. Supply is now less restricted but without the implementation of vehicle efficiency and emissions standards, supply may still be an issue in terms of choice of vehicle model.

Prices are gradually falling but not yet at parity. Whole of life cost parity is here for some models and users, the higher purchase cost is still a barrier for those with insufficient capital to make a purchase.

For those eligible, changes to the Commonwealth Fringe Benefit Tax have made EVs acquired through novated leases a cost effective option (“a Tesla cheaper than a Corolla!” according to one advertisement). Other initiatives such as the Carbar/Aurora offering provide a second route to reducing the capital cost, but may be less competitive overall.

The recently announced Electric Vehicle Rebate effectively replaces the ending of stamp duty exemptions and covers many would-be EV buyers not able to access these two options. However the a limited number of 375 EVs supported represents only about 4-6 months’ worth of ‘normal’ demand from this group and may well be taken up sooner than that.

When this expires the Energy Saver Loan Scheme may provide a means to address the initial capital cost barrier. Savings in running cost enable repayments without a large increase in cost to the household in the first years of ownership. The three year term might be extended for EV purchases. These no interest loans could follow the proposed guidelines for the EV Rebate and apply to any vehicles new to the state.

Taxis

Incentives to purchase for fleets are greatly aided by Commonwealth changes. However, taxis are a special case deserving particular attention. Like rental cars, taxis can expose a large number of casual users to EVs and provide opportunities for riders to ask drivers about using them. They are seen as a relatively demanding use, so seeing EVs used as taxis gives additional confidence to would be buyers.

Taxis need to be able to charge ‘on the go’ with frequent short top ups between fares combined with less frequent longer charging overnight or during rest breaks. While taxis can use public fast chargers, the use case can improve dramatically if charging is available at taxi ranks, particularly wireless charging. Demonstrating this technology also has benefit for other key users of wireless charging such as disabled users, emergency vehicles and delivery vans.

Wireless charging particularly for taxis has been successfully demonstrated in several trials overseas and recent agreements on wireless interoperability standards now make commercialisation imminent https://chargedevs.us2.list-manage.com/track/click?u=78a2587fd94fd13096667a5ae&id=1d01c84b95&e=f5510fb49a .

It is suggested that the State government work with interested vehicle suppliers, taxi operators and local governments to introduce the first stages of a wireless charging in a taxi rank network:

1. Assist with funding ten wireless charging EV taxis in one major Tasmanian city.
2. Provide funding support for wireless chargers at four to six taxi ranks at key locations: CBD, outer suburbs, airport
3. Provide funding to track the performance of the taxis and charging stations to enable the system to be expanded effectively as warranted and reproduced elsewhere for taxis and other users.

Information and education

While infrastructure and purchase assistance directly support EV adoption, there remains a large task to educate the large part of the community still not exposed to or aware of the features and advantages of EVs.

The Draft Plan proposes:

> *Continue to support events that promote EV uptake and provide opportunities for the public to experience driving EVs and getting answers to questions about them.*

AEVA has been a leading player in promoting EV adoption in Tasmania since the formation of the Tasmanian Branch in 2015. During this time we have organised or participated in a dozen or more local events each year including displays, conferences and try and drive days. At times we have received some support from the State government, but mostly they are run at low cost with expenses met by AEVA members and some sponsorship support from commercial partners.

AEVA will be hosting the national conference and expo on 1-3 November, 2024 in Hobart. https://www.aeva.asn.au/eeetasexpo/ This is the second national conference to be hosted by the Tasmanian Branch, the first being held in 2017 which kicked off the now recurring large scale national AEVA events that rotate between states. It is AEVA Tas Branch’s intent to now make the associated Energy, Efficiency & Electricity Expo an annual event in Tasmania. A degree of government support for such events is critical for their ongoing success.

AEVA is also considering a series of “Know your EV” workshops, aimed at people who have just purchased, or are considering purchasing, their first EV. These workshops have been developed by the ACT branch, and have been very well attended. Government sponsorship of this program could extend the frequency of the workshops and improve affordability to new drivers.

AEVA will continue to participate in local events around Tasmania each year. A structured agreement between AEVA and government may enable them to be more widespread, better promoted and engage with and educate more Tasmanians about the transition to EVs. A more extensive series of Try and Drive days around the state can be particularly effective at introducing people to EVs. Currently there are three of four such events each year around the state.

Forecasting EV uptake

The draft plan proposes:

> *Work with key government agencies, energy entities and industry to model future EV uptake and sales, to support planning and decision making.*

AEVA supports developing an agreed forecast of uptake and tracking the factors that are most likely to influence it.

Heavy vehicles

Passenger vehicles and light vans are now on a steady growth curve leading toward a shift to a majority of EVs in new cars sold, probably well before the end of the decade. This has in large part been made possible by the comprehensive statewide charging network rolled out with modest levels of support by the State and Commonwealth governments, less than $3 million over five years. This network can now expand based on established demand, with modest additional government support.

As a result, medium and heavy road vehicles will soon become an increasing proportion of transport emissions. However, the medium and heavy vehicle transition has a bigger 'chicken and egg' problem than passenger EVs:

Driver/enabler	Passenger	Commercial heavy vehicles
Initial adopters	Pioneers, experimenters, early adopters – passion. Prepared to pay a premium.	Hard nosed businesses in competitive environment – profit/loss. Need to bridge total cost of ownership (TCO) gap and not risk operational difficulties
Charging Sites	Initial small scale, mostly within site electricity supply default parameters – connections mostly quick, modest capital commitment. Ok if it takes time for the market to develop	Big from the beginning – need supply upgrades at almost any site; longer lead times, high capital commitment. Need to see prospect of sufficient volume – trucks on the road – in a reasonable time frame
Charging network	Mostly charge at home; some discretion whether EV used for longer trips; network rolled out gradually over 5 years	Must have sufficient charge network to support use cases. To demonstrate 'serious' business case, need to be able to cover at least the Midlands Hwy from Hobart to Burnie with confidence. Some use cases may be able to charge at fleet base or fixed destination only.

A wide range of medium and heavy electric vehicles are now in use globally, particularly buses but also including specialised equipment such as garbage trucks, mining trucks and construction equipment. Capital costs for most EV heavy vehicles remain high, in part due to limited production volumes, but these will fall over the next few years. These higher purchase costs are offset by dramatically lower operating costs making these vehicles close to cost competitive today in applications with relatively high kilometers per year. Stop-start operations with well defined routes such as garbage collection can be particularly favourable.

Tasmania needs a plan that will:

- Introduce heavy vehicles and the minimum charge infrastructure in a coordinated way.
- Ensure backing of a critical mass of leading industry participants (vehicle manufacturers, infrastructure providers/operators, vehicle fleet operators) and support from State and Commonwealth governments as well as TasNetworks to plan the high demand power supply.
- Identify the best use cases with the smallest TCO gap that can be served either from operator's depot or minimum realistic charge network. This may be

achieved by asking operators to bid for available funds with the lowest cost per vehicle in each of various categories (medium local delivery, medium long routes, heavy long routes, garbage collection, buses) being awarded the grants.
- Ensure the charging infrastructure deployed is scalable to meet future demand and reasonably future proof against likely technical developments.
- Obtain sufficient electricity capacity from TasNetworks to charge sites to permit a staged expansion, recognising that much of the capacity will not be used for 3-7 years, but may need further expansion toward the end of that period. Establish a payment framework that ensures costs are met from operations in the medium to long term, but with relief of costs in the first 3-5 years. This will require a realistic forecast of stages for future expansion and capacity required at each stage. Planning is essential as lead times are long.

The initial outlay will be bigger than for passenger vehicles, but the transition to a commercially self-supporting model should be as quick or quicker.

Hydrogen is often mentioned as a candidate for heavy and long haul vehicles. At present time it does not appear that hydrogen can be competitive with battery electric vehicles. Further, the rate of decline in cost and increase in capability of EV trucks and buses makes the prospect of hydrogen catching up less likely. While fast refuelling has been cited as a key hydrogen advantage, the advent of MegaWatt charging (MCS) shows that EVs are not far behind and may soon match even this. Any investment in hydrogen vehicles should be compared to the potential return of a similar investment in EV vehicles – the technology that is ready to go **now**.

Supporting the transport sector to transition to low emissions and build resilience

Coastal marine

The draft plan points out that interstate and international marine transport is out of scope. However, Tasmania has a wealth of coastal marine activity including tourist ferries (Maria Island, Scenic tours, etc) fishing and aquaculture.

Tasmania also has demonstrated capabilities; for example the hybrid cruise vessel on the Gordon River Cruise and Incat's latest battery electric vessels.

It is suggested that the State government support:

- More local ship builders to develop battery electric design and construction capabilities;
- introduce operators of coastal vessels to the possibilities based on experience overseas where adoption is more advanced; and
- encourage TasPorts and other coastal facilities operators to plan provision for recharging vessels of a range of sizes from pleasure craft to larger commercial vessels.

Airports

Tasmania's largest airports are currently attempting to provide capacity for rental car companies to recharge rental cars at their facilities. This is one part of a larger need to provide charging at long term parking, for road delivery of air freight, and airport-based equipment such as airside vehicles (aircraft tugs, baggage carts, shuttle buses).

In the medium to long term there is also the prospect of electrifying short to medium haul flights which will introduce new charging challenges.
https://travel.flysas.com/electric

It is suggested that the state government could coordinate a working group of all interested Tasmanian airports to encourage cooperation and joint learning about some of the issues involved and develop some recommended best practices for airports to be prepared for electrification of their operations.

Grid capacity planning

Planning is essential given the potential for large increases in loads at some locations, but particularly for heavy vehicle recharging. A bigger picture view of the locations where loads are likely to increase due to electrification of transport is also required and may include ports, airports and other less obvious places.

Another impact that requires consideration is the extent to which managing charging may be required and opportunities that EV charging may provide. For example, the profile of electricity use at fast chargers matches the daily peak of solar output quite closely, shifted slightly later in the day. This provides an opportunity to use fast charging to soak up excess daytime solar. However, the evening solar supply drop combined with evening peak domestic use – the neck of the infamous duck curve – may require fast chargers to be throttled back for short periods to reduce the stress on generators and transmission.

These and other issues need to be tracked and explored as they develop and management responses assessed.

Skills development

Skills development needs significant attention. There are already reports that there is

a need for more electricians for solar, charger installation and maintenance and EV service and maintenance.

Biofuels

Biofuels have an important role to play in those applications which are not yet suited for electrification including long distance trains, aircraft and marine. However, it is important that these fuels be derived primarily from existing waste streams that would otherwise emit GHGs during decomposition, in preference to using crops or harvesting wood for fuel.

Battery re-use and recycling

In time there will be an increasing supply of used batteries from old or damaged EVs. It is important to plan for the collection and transport of these to processing centres, some of which will likely be interstate.

Opportunities for reuse within Tasmania such as stationary storage should be identified and promoted. Some assistance may be provided to businesses establishing such capabilities.

Safety

Effective management actual and perceived battery safety is of great interest/concern to AEVA members. For instance the recent Domestic Commercial Vessel Safety Alert, which would apply to the Spirit of Tasmania ferry, has the potential to adversely affect interstate travel. Prudent management of EV fire risks on vessels and elsewhere is desirable, but measures taken should be commensurate with the real level of risk. Science-based education for government, industry and the public is crucial to combat social media scaremongering and knee-jerk reactions.

Supporting action through partnerships with governments, industry and other stakeholders

Road user chargers

The High Court recently ruled against the Victorian government's road user charge for EVs on constitutional grounds. AEVA supports a road user charge, but one for all vehicles which is national in scope and based on emissions (GHG and pollutants), vehicle weight and kilometres travelled as a replacement for the fuel excise.

National vehicle fuel efficiency and emission standards

These will be the key to driving availability of EVs in the Australian market. However they must be comparable to those set in overseas jurisdictions in order to be effective.