Submission regarding the proposed National Electric Vehicle Strategy.

(Close for submissions 31 October 2022)

Introduction to Lighter footprints

Lighter Footprints[1] is a community-based group that aims to influence Australian local, state and national decision makers to take the action necessary to halt global warming as a matter of urgency. For over a decade, we have educated, advocated and brought people together in Boroondara and surrounding suburbs to inform the community and promote a clean energy future. We have more than 3,300 people on our mailing list.

Lighter Footprints welcomes the opportunity to respond to Government's Electric Vehicle Strategy.

Lighter Footprints' view on the EV strategy and where it fits

Lighter Footprints is of the view that the electrification of transport is a critical part of Australia's energy transition. There are key inter-dependencies with other sectors, but decarbonisation of all sectors needs to occur concurrently.

The following actions need to occur concurrently:

1. Decarbonise the electricity grid as fast as possible, with urgent focus on all measures required to accelerate the exit of coal while minimising supply and security issues
2. Decarbonise the home through electrification of heating, water, cooking supported by stronger energy efficiency measures
3. Decarbonisation of transport (predominantly through direct electrification and BEV) with priority on road transport noting that other solutions may be required for sea transport, aviation, and heavy vehicles.
4. Decarbonise commercial environments (space and water heating, cooking)
5. Decarbonise industry (especially industrial heat and carbon intensive processes)

[1] https://lighterfootprints.org/

Context

- This response focuses on electrification of licensed road vehicles and does not specifically address rail, maritime, aviation, agriculture, or mining. These sectors require significant Government focus but are less advanced in availability of economic solutions.
- The Australian vehicle market is small and right-hand drive so there is very limited opportunity for a domestic EV market to influence to global markets and grow to viable vehicle exports. However, our ability to produce key components from green materials with low cost, green electricity is good. Lighter Footprints encourage Government support of value adding industries leveraging our abundance in both renewable energy resources and critical mineral ores that can be locally converted to high value processed materials essential to support the energy transition.
- Electrification of transport will importantly reduce our petrol/diesel imports, assist in our trade balance, and further improve our energy self-sufficiency and security.
- Most necessary technology already exists, strategies already well developed and mostly proven in other countries – we should not waste valuable time on trials and research on technologies well proven elsewhere. Focus needs to be on accelerated transition
- The time for plug-in hybrid vehicles (PHEV) has passed in most transport sectors and only true ZEV should be included in any Government support. Hydrogen Fuel Cell Vehicles (FCEV) are not mature and have very limited industry support so Government should be very cautious in providing any support. Hybrid vehicles without plug-in charging should be fully excluded from any zero/low emissions strategy.
- Biofuels will only play a small role in decarbonising transport and should not be used to perpetuate fuel burning vehicles

Lighter Footprints' views on Governments' paper

We are aligned with EV Council views that strict, monitored and enforced fuel efficiency standards aligned with leading international peers form the base of Australia's EV strategy.

We see the Government paper as a good start addressing most of the important questions required at this stage to get on with the urgent electrification of transport. The key areas where further works are necessary are:

- More detail is required on demarcation between state and federal Governments, especially coordinated incentives to consumers and industry.
- Much more transparently is required on support and subsidies to petroleum and traditional vehicle companies. Then low/zero carbon vehicles need to be positioned on at least an equal but preferably better footing.
- Smart home charging will be critical – advanced EV markets suggest that 80% of private EV charging will be done at home. Smart EV charging equipment with connectivity and awareness of solar, grid congestion and time of use tariffs must be mandated. The

Energy Security Board's Electric Vehicle Smart Charging Issues Paper (July 2022)[2] has initiated industry engagement on requirements for standards and compliance. We agree with industry responses proposing Australia's adoption and adherence to OCPP1.6J, ISO 15118 and IEEE 2030.5. The same approach that the PV industry used to standardise inverters could and should be used – the personnel, process and tools could be readily leveraged. Opportunities for higher levels of Australian manufacturing and content could be included.

- Connected EVs and smart chargers represent a cyber security risk allowing potential external parties to attack transport and electric networks via these ingress points
- V2G and V2H have some potential in the residential sector in the future but currently provide minimal return to the user or the grid on the significant investment, minimal manufacturer adoption and significant change to user behaviour. Fleet adoption of V2H/V2G will make more technical and economic sense in some applications. Government should avoid perpetuating the hype on this emerging technology but acknowledge it has some potential.

Lighter Footprints' responses to specific questions raised in Government paper

1. Do you agree with the objectives and do you think they will achieve our proposed goals? Are there other objectives we should consider?	Yes, but additional consideration necessary on: • Demand needs to be accelerated across all sectors but prioritised on best environmental bang for buck • More overt mention of seeding the second-hand market • Lead by example (e.g. government fleet transition prioritised) • Should there be an objective to stop the importation of "gas guzzlers" by 2030? Vehicles purchased then may still be in use after 2045. • The immediate Australian market issue is supply (insufficient volume, model range) but once this is addressed, demand-side needs attention
2. What are the implications if other countries accelerate EV uptake faster than Australia?	• Balance of trade (if we are still importing petroleum products which has almost the same value as the unprocessed resources we export) • Australia will be left as dumping ground for outdated ICE/PHEV and will not access latest models/technology that manufacturers direct to more advanced markets.

[2] https://www.datocms-assets.com/32572/1658376992-esb-electric-vehicle-smart-charging-issues-paper-final-for-publication.pdf

	• Less aggressive FES would allow manufacturers to offset their heavy PHEV development investment by dumping these unwanted models in Australia as they are banned in European markets. • Australia would miss out on developing parts of the EV manufacture supply chain • Australia would continue to export low value ores (e.g. Lithium) rather than evolving into high value components (battery packs) • Decarbonisation of other sectors may be impacted (agriculture, mining etc)
3. What are suitable indicators to measure if we are on track to achieve our goals and objectives?	• Tracking of fuel efficiency standards across all sectors, new and used. FES gCO_2/km must ramp down year by year • Comparing fuel efficiency standards to those of other economies ensuring that we do not fall behind • EV vs ICE price points (for benchmarked capability sets and price points), sales, resale values (as % of purchase price after 5, 10 years) across cars, LCVs, trucks/busses • Transition progress of Government fleets (direct and indirect) • EV km, tonnage travelled • Electric Vehicle Supply Equipment (EVSE) infrastructure rollout (public, on-street, apartments). EVSE/population per state. EVSE/highway km per state (metro, rural, remote targets)
4. Are there other measures by governments and industry that could increase affordability and accessibility of EVs to help drive demand?	• Drop luxury car tax on EVs below $100k. • Introduce a pollution tax on ICE (both new sales and registration based) to fund EV incentives • Remove state EV km taxes (but do not introduce a federal equivalent until EV penetration exceeds 50% of sales and administration inefficiencies and fraud risk are overcome) • Assist financial institutions offer more favourable finance options to consumers and businesses purchasing new and used EVs. • Incentivise fleets (and lead by example on Government fleet) to accelerate transition to EVs and turnover vehicles into the used market rapidly (3 years) • Means-based subsidies and attractive finance options. • Subsidies for renters and/or incentives for landlords to install domestic smart chargers • Subsidies to ensure adequate street charging where required (areas with limited off-street parking)

5. Over what timeframe should we be incentivising low emission vehicles as we transition to zero emission vehicles?	• We expect EV incentives would only be required until 2030 when new car price parity should be achieved but increasing ICE pollution tax over time would further disincentivise ICE. However, incentives may be required longer to encourage low socio-economic groups to transition from old ICE (direct EV subsidies may be less valuable than other targeted welfare-oriented schemes) • Any incentives for PHEV, hybrids should rapidly phase out (2025) – which may make them attractive in the second -hand market
6. What information could help increase demand and is Government or industry best placed to inform Australians about EVs?	• Guides on how to easily access incentives and calculate lifecycle ROI for EV vs ICE • Independent benchmarking and comparison guides of EVs and ICE on lifecycle costs, environmental impacts – enforce star rating on all vehicles showing emissions and costs per km (as per consumer electrical appliance rating system) • Provide charging infrastructure assistance (FAQ, tools/guides) to fleet operators / employers
7. Are vehicle fuel efficiency standards an effective mechanism to reduce passenger and light commercial fleet emissions?	Fuel efficiency standards appear to be effective based on local studies and international implementations but needs to look as what has worked and not from overseas experience but this must not slow down the introduction of standards consistent with US and EU (which guide most manufacturers) • Ensure that the system incentivises more sales of low/zero emission vehicles and disincentivises higher emissions vehicles (with disincentive growing year by year) • Standards need to apply across all vehicle types (different standards for LCV/SUV vs light trucks vs heavy trucks) • Checks and balances must be included to ensure that loopholes are not exploited (ref US market SUV sales flourishing as they were not applicable to low emissions car standards)
8. Would vehicle fuel efficiency standards incentivise global manufacturers to send EVs and lower emission vehicles to Australia?	• Based on European country experience, FES seems to work. If manufacturers/importers must meet a standard across all vehicles they import/sell, then they must offset any high emissions vehicle sales with many low/zero emissions vehicles • The standards could also place a cap on emissions for any single vehicle • Some research may be required to determine which entity fuel emissions standards apply to: manufacturers, importers, distributers. We would suggest that the entity that has control over which countries have access to required volumes of ZEVs should have the fuel efficiency obligation.

	• Some consideration might be given to both a carrot and stick approach – rewarding manufacturers who exceed the standard as well as penalising manufacturers who fail to meet the standard
9. In addition to vehicle fuel efficiency standards for passenger and light commercial vehicles, would vehicle fuel efficiency standards be an appropriate mechanism to increase the supply of heavy vehicle classes to Australia?	• Yes (perhaps based on tonnage sold by manufacturers/importers rather than number of vehicles sold) although it may be more complex to apply than to cars/LCVs. • Consideration also needs to be given to addressing fuel efficiency and emissions of existing fleet – improved enforcement of emissions – to retrofit or upgrade to lower emission alternatives • Expect this is largely an issue of vehicle availability – transport companies and drivers largely appreciate the economic and ergonomic advantages of EVs • Truck dimension standards alignment with EU/US important (ref Grattan report[3])
10. What design features should the Government consider in more detail for vehicle fuel efficiency standards, including level of ambition, who they should apply to, commencement date, penalties, and enforcement?	• Alignment with US and European standards so manufacturers see Australian non-compliance as equivalent risk/opportunity. • Emissions measurement and compliance should align with Europe/US to align testing and compliance tools/processes/reporting • Financial penalties plus public/industry naming and shaming • Providing tools and reporting techniques such that fleets can report their transport emissions compliance and improvement
11. What policies and/or industry actions could complement vehicle fuel efficiency standards to help increase supply of EVs to Australia and electrify the Australian fleet?	• Introduce operational standards (availability, reliability, utilisation) for any EV charging network that utilises Government subsidies/funding to provide better perceptions of EV charging network capability– KPIs on availability, repair times • Incentivising faster rollout of public charging networks • Subsidising compliant smart home/business chargers (ref point above on standardisation) • Consider any EV purchase incentive being provided to the importer/seller (not the buyer/owner), coupled with fuel efficiency targets so that point of sale price parity achieved sooner
12. Do we need different measures to ensure all segments of the road transport sector are able to reduce	• Bus fleets should be electrified ASAP (pollution concerns, easier business cases, existing manufacturers, local manufacturers, potential V2G opportunities)

[3] https://grattan.edu.au/report/grattan-truck-plan/

emissions and, if so, what government and industry measures might well support the uptake of electric bikes, micro-mobility and motorbikes?	• Establish a plan / timetable for transitioning agriculture diesel rebates to an EV equivalent on purchase of EV and EVSE once heavy agricultural vehicles have a clear pathway forward (including support to transition the sector if necessary) • More focus on taxis, rideshare, courier vehicles to transition high usage vehicles faster • E-bike standards need to be enhanced and enforced • E-scooter standards (safety, usage) need to be consistent across private ownership and hire firms and need to be publicised and enforced • Public charging associated with secure storage (cages/lockers) at train/bus stations would encourage higher public transport utilisation.
13. How could we best increase the number of affordable second hand EVs?	• More fleet incentives to electrify. Government lead by example on direct/indirect fleets • Encourage independent certified EV mechanics. Transition TAFE (etc) training for transitioning current motor mechanics (Geelong's Gordon Institute appears to have a strong offering) • Independent EV mechanics may facilitate affordable battery swap/upgrade for older EVs • Promote and incentivise more attractive EV novated lease options with shorter turnover periods • FBT exemption on fleet EVs
14. Should the Government consider ways to increase the supply of second hand EVs independently imported to the Australian market? Could the safety and consumer risks of this approach be mitigated?	• No incentives should be required– just remove disincentives. • Encourage independent certified EV mechanics to roadworthy and service post-warranty used EVs. • Engage with industry to streamline imports (although this would always be a small market component)
15. What actions can governments and industry take to strengthen our competitiveness and innovate across the full lifecycle of the EV value chain?	• Encourage investment in development of value-added materials and components (processed advanced materials using abundant, inexpensive, renewable energy) rather than exporting raw ores and fossil fuels for other countries to process/value-add
16. How can we expand our existing domestic heavy vehicle	• Encourage independent certified EV mechanics. • Enforce workplace emissions standards (e.g. mines transitioning to EVs)

manufacturing and assembly capability?	• Align Australian heavy vehicle physical standards (height, width) with major markets so vehicles developed for local market have international relevance. Current Australian standards differences provide a pseudo local trade protection for local manufacturers – if local industry protection is necessary, then less oblique techniques should be used which do not slow introduction of low carbon trucking. • Further support for manufacturers who have already established capability (tax incentives, low interest development loans, etc)
17. Is it viable to extend Australian domestic manufacturing and assembly capability to other vehicle classes?	• Australia does not have the domestic demand necessary to support a significant car/LCV production industry but should be able to support further growth in the existing commercial/industrial vehicle design and manufacture. • Whereas conversion of ICE to EV is usually not practical in car/LCV sector, conversion of heavy vehicles is often economic and such industry should be supported. • BZE "Deploy" report[4] potential for 12,800 jobs in manufacturing 30% of Australia's bus and rigid truck fleet with a similar number in maintenance.
18. Are there other proposals that could help drive demand for EVs and provide a revenue source to help fund road infrastructure?	• Work with CAMS etc to promote EV racing (e.g. bring Formulae-e to Australia) alongside traditional events • Introduce inner city congestion tax based on emission levels • Introduce indirect incentives (reduced tolls, parking, congestion tax) • Phased, increasing tax or levee on higher polluting ICE • Tighten up the definition of Utes that can be claimed a business related (e.g. exclude twin cabs) • Cap the rate per kilometre that can be claimed as a tax deduction incentivising a move away from ICE vehicles • Restrict FBT exemptions to 2 door utes and no-side-window vans only (that is, only vehicles actually used for commercial purposes, not private/personal use) • The definition of "fuel efficient vehicle" in the Tax Act gives discounts on the Luxury Car Tax to vehicles that are not fuel efficient by current global standards. The definition should be reduced from 7 litres per 100 km to zero litres. This will make EV more competitive with ICE

[4] https://bze.org.au/research_release/deploy/

	vehicles in the luxury car bracket and will increase government revenue in the short to medium term. • EV trucks with their minimal noise and air pollution can be readily incentivised by excluding them from night time curfews etc and eventually banning ICE trucks from inner city areas.
19. What more needs to be done nationally to ensure we deliver a nationally comprehensive framework for EVs?	• Work with states to sensibly introduce a national standard EV equivalent of fuel excise that is easy and transparent to administer – Although it can be mooted now, its introduction should be kept until significant EV penetration, otherwise would be an additional disincentive to transition to EV • EV strategy must be integrated with related decarbonisation initiatives (perhaps only at high level initially such that integration does not impede the implementation of sector decarbonisation but ensuring that initiatives do not conflict or undermine each other) • Support and accelerate Energy Security Boards work on standardisation of smart chargers and associated tariff reforms • Consideration of repairability legislation. EV manufacturers need to be encouraged (forced) to enable 3rd party repair and upgrades. Just like changes to consumer electronics and mobile phone repair, EV manufacturers should be required to provide parts and access to allow 3rd party mechanics to repair and upgrade EVs, especially outside warranty. Software locks that only allow manufacturer agents and genuine parts must be countered to allow affordable, remote area repairs. Government (through TAFEs etc) should support the transition and retraining of traditional mechanics to EV technicians. • Introduce national fire rescue standards and procedures for dealing with EV road accidents • Introduce standards for comprehensive charging infrastructure at major destinations – airport carparks, city/suburban medium-long stay carparks • Work with charging networks to improve charger reliability. Potentially introduce and enforce reliability standards as charging networks become critical national infrastructure. • Recognition that EV and ICE value chains are different – most ICE sales and distribution channels rely heavily on after-sales service as a recuring revenue stream. With higher reliability and fewer moving parts, EV maintenance revenue streams may make traditional vendors unviable. Current shortage of supply has driven a sellers' market where customers are forced to buy on-line without test drive and engaging the dealer network. Many EV importers have centralised sales with traditional distribution channels only having delivery

	and maintenance involvement – consideration of how sales and service is handled in rural and remote areas may require Government intervention. • Work with states for building standards (house, apartments, commercial buildings) to mandate EVSE readiness in new builds
20. How can we best make sure all Australians get access to the opportunities and benefits from the transition?	• Ensure that charging facilities are available in the street for buildings without off-street parking (such as many inner suburbs and introduce schemes to support charging facilities for apartment owners. • How to best address equity? Initial EV subsidies benefit wealthy home owners to the detriment of low income, renters, and apartment dwellers. Lower socio-economic groups are often dependent on low-cost vehicles to cover long distances (outer suburban, rural, remote) for work, shopping, and services – these groups are potential the best candidates for EVs but can least afford them. Government should consider means-tested subsidies or interest free loans for lower socio-economic groups to purchase new and used EVs and charging infrastructure.

Lighter Footprints thanks you for the opportunity to make this submission.

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