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Transport and Infrastructure Net Zero Consultation Roadmap

Overview

Rewiring Australia supports the introduction of The Transport and Infrastructure Net Zero Roadmap and Action Plan. The faster we can transition our fossil fuel powered vehicles into efficient, electric alternatives run on renewable energy, the faster we can reduce our national carbon emissions and improve cost of living and health outcomes for every Australian. Rewiring Australia advocates for electric vehicles to be recognised as critical energy infrastructure, incentivising the vehicles that drive the most to switch first, proactive rollout of EV charging into lower socio-economic areas, community EV charging and energy generation and for every Australian household and small businesses to have access to comprehensive support measures to electrify their cars. As outlined in our pre-budget submission in March 2024, this work should be overseen by an Office of Electrification to build momentum around electrification policy development and implementation.

About Rewiring Australia

Rewiring Australia is a non-profit research and advocacy organisation dedicated to representing the people, households and communities in the energy system. We deliver practical climate progress by working with government, industry, and communities to electrify everything. Co-founded in 2021 by Dr Saul Griffith and Dan Cass, Rewiring Australia highlights the positive climate and economic outcomes possible for Australia, and the world, with electrification of fossil fuel machines. www.rewiringaustralia.org

In addition to co-founding Rewiring Australia, Saul Griffith is also the co-founder and Chief Scientist of Rewiring America. Rewiring America and Saul worked closely with the Biden Administration in the drafting of the Inflation Reduction Act to drive investment in clean electric machines and in supporting households and the larger U.S. economy to electrify. www.rewiringamerica.org

Key Statistics

- Filling the "tank" of an average car to drive 500km, costs about $82. In comparison, charging an electric car to drive the equivalent kilometres is about $32 or with rooftop solar can be around $5[1].
- About 45% of an electricity bill[2] is due to the 'poles and wires' network costs, and this share is likely to increase over time. Adopting EVs can reduce these network costs. They offer the potential for highly flexible demand and supply that's close to rooftop solar generation and residential and commercial demand, reducing the need for new distribution infrastructure, and maximising the utilisation of the existing capacity.
- As the passenger vehicle fleet moves towards fully electric vehicles, their combined storage capacity will be about five times the storage capacity of Snowy Hydro 2.0.
- Australia has over 19 million passenger cars and utes which will cost approximately over $1t to replace, however 50% of the kms travelled are from 20% of the cars[3], this means to electrify half of the cars driving on the road today, we only need to do the busiest 4 million of them.
- If we incentivised only this $200b of cars and utes with generous 20% incentives, we'd tackle half the car and ute emissions for just $40b.
- Australia also has over 850,000 trucks and buses too and the top 20% do approximately 60% of the kms[3], so even more opportunity to prioritise investments in this sector.
- Reliance on fossil fuels for transport is increasing inflation, July 2024 inflation figure increased to 3.8%, and automotive fuel is 3.6% of the CPI basket of goods.
- Australia is the third most sparsely populated country in the world[4], and has the third most kilometres of road per person[5]. Moving broadly to transport

[1]Petrol price data sourced from Australian Institute of Petroleum, August 2024 Report. Rooftop Solar price sourced from Rewiring Australia, Castles and Cars Technical Study, 2021, page 84, https://www.rewiringaustralia.org/report/castles-cars-technical-study

[2] Australian Competition & Consumer Commission, Cost of supplying electricity to households at an eight-year low, 13 December 2021, https://www.accc.gov.au/media-release/cost-of-supplying-electricity-to-households-at-an-eight-year-low

[3] Bureau of Infrastructure and Transport Research Economics, Who's using the roads: variations in usage by drivers, 2014, page 4 https://www.bitre.gov.au/sites/default/files/is_053.pdf

[4] List of countries and dependencies by population density, August 2024, https://en.wikipedia.org/wiki/List_of_countries_and_dependencies_by_population_density

[5] NationalMaster, https://www.nationmaster.com/country-info/stats/Transport/Highways/Total/Per-capita

technologies with much lower running costs will be an important structural productivity enhancement for our country.

Recommendations

- The integration of electric vehicles as critical energy infrastructure into our national electricity market and acceleration of vehicle-to-grid (V2G) development and deployment.
- Focus on policies that incentivise the vehicles that drive the most to switch first. This could be direct incentives and discounts offered to individuals based on their odometer readings at registration renewal, or other mechanisms to target users identified as likely to have higher mileage.
- Support the proactive rollout of EV charging into lower socio-economic areas. If EV charging 'follows' EV uptake and demand, it will be concentrated in wealthier areas and accentuate unequal access.
- Increase in investment in workplace and community EV charging powered by community generation - this will support a renewable grid by shifting demand into the middle of the day.
- Curb the trend to supersize vehicles by removing the tax-based policies for light commercial and heavy vehicles and replacing them with a weight-based fee model.
- For Every Australian household (especially low income) and small business to have access to comprehensive support measures to electrify their cars, such as Income Contingent Loans.
- Creation of a national Office of Electrification to deliver programs such as a broad-scale electrification finance scheme - the office would ensure that disadvantaged households and communities are among the first to receive electrification upgrades.
- The new Office of Electrification can also deliver public education and thought leadership to give communities the tools they need to understand the health, economic and environmental benefits of electrification and make informed decisions about their next purchase of vehicle, appliance or home.

Conclusion

Vehicles last about 20 years before they are replaced. This makes the net zero calculation simple: all new vehicle purchases will need to be zero emission by 2030 if we are to meet our 2050 zero emission commitments. The current proposals are neither

ambitious nor timely enough to meet these emissions targets and they must be supported with a range of other complementary policies and incentives to realise the benefits of having zero emissions vehicles accessible for every Australian.