Opinion: Australia's adoption of electric vehicles has been maddeningly slow, but we're well placed to catch up fast

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Credit: AI-generated image (disclaimer)

Australia has long had a love affair with the internal combustion engine. Its first petrol-powered car was developed in 1901. (Admittedly, the engine was imported from Germany.)

Roll forward 122 years and there's now a registered motor vehicle for every one of the 20 million people of driving age in Australia. And fossil fuels power 99.9% of these vehicles.

The slow pace at which Australia has adopted electric vehicles is maddening to many. But the transition to electric vehicles is changing gear in Australia, driven by both consumers and government.

The early signs of this shift can be seen in the latest quarterly vehicle sales data. Two-thirds of medium-sized cars sold were electric.

Also this week, the National Electric Vehicle Strategy filled a glaring hole in federal policy. All the states and territories and many local governments had for some time taken steps to boost the uptake of electric vehicles.

Electrifying the vehicle fleet is going to be one of Australia's biggest challenges this century. But what makes Australia different from other countries? And why does it make sense to embrace a position as a fast follower?

A country wedded to the car

You can see why cars are so popular in a country like Australia. We're the sixth-largest country in the world, but the 55th-most-populous. With only around three people per square kilometer, we regularly travel large distances through sparsely populated areas.

Australia also had a burgeoning automotive industry, which spawned fierce loyalties among fans of domestic brands. Its long decline began in the 1940s, with the last vehicle manufacturer shutting up shop in 2017.

Globally, too, the time of internal combustion engine manufacturing

seems to have passed. The impacts of human-induced climate change are intensifying, with the transport sector responsible for a large share of global emissions that stubbornly refuses to decline.

The electrification of transport offers a route to decarbonize this sector. It will also bring a host of other benefits such as improved health through reduced local air pollution.

Electric vehicles aren't new. The first cars were electric but were eventually outcompeted by their fossil-fueled counterparts. It wasn't until the start of the last decade that upstarts such as Tesla began disrupting the automotive sector with fully electric offerings.

Not long after this Australia began a series of electric vehicle demonstration projects. The first was a Western Australian trial way back in 2010. However, sales and model availability remained stubbornly low. This was largely due to weak policies.

We have the resources to go electric

Adding to the frustration of EV advocates is Australia's wealth of resources that can enhance the benefits electric vehicles offer.

Australia has some of the best wind energy resources in the world with an estimated 5 terawatts of potential. It also has the world's highest rooftop solar capacity per person. Over 3 million households can power their homes (and potentially vehicles) for free when the sun is shining. There are also 180,000 residential batteries, helping households store the sun's energy for later use.

The "lucky country" also boasts huge deposits of the minerals needed for making renewable energy technology like solar panels, wind turbines and batteries. Australia produces over 50% of the world's lithium and 20%

of its cobalt, as well as aluminum (27%), nickel (23%) and copper (11%).

And there's expertise to accelerate the transition

While the new national strategy makes all the right noises, the main critique emerging is that it lacks real teeth. In particular, the specifics of a badly needed fuel-efficiency standard are still being developed.

However, there is still plenty in the strategy to offer promise. It identifies the need for:

- better infrastructure planning and deployment
- training and attracting a workforce with the necessary skills
- product stewardship for end-of-life EV batteries
- better access to charging for apartment residents
- funding for more guidance and demonstrations.

We also have a vibrant and innovative domestic electric vehicle industry. It boasts exciting companies such as NASDAQ-listed Tritium, the ubiquitous JetCharge and a host of others including EVIE Networks, Jolt Charge, ACE EV and EVSE Australia. They have been creating a market without any federal government encouragement or support. Harnessing their innovation and drive will be key.

Australia's world-class energy researchers have been exploring issues relating to a mostly renewables-powered electricity grid for decades. In recent years, they have been investigating how electric vehicles could become an important asset for the electricity grid as "batteries on wheels ". The renewable energy agency, ARENA, has spent over $2 billion to increase the renewable energy supply in Australia. Over $100 million has gone to transport-related projects.

The RACE for 2030 Cooperative Research Center is another major long-term industry and research collaboration. It has received $69 million in government funding and $280 million in cash and in-kind support from partners to accelerate the transition to reliable, affordable, clean energy. This year it allocated $3.4 million to the Australian Strategic EV Integration (SEVI) project.

The SEVI project will test how electric vehicles can be incorporated within government fleets, holiday parks, and residential areas and in three states (New South Wales, South Australia and Western Australia). To take one example, the South Australian part of the trial will examine how holiday parks could benefit from electric vehicles generating new sources of revenue and reinforcing the grid in rural areas. We can draw on the lessons from such trials to speed up the adoption of electric vehicles across Australia in ways that maximize the benefits for consumers, communities, businesses and the grid.

Australia now has impressive capacity within industry, government and academia to help drive the transition to an all-electric fleet. We will need to embrace our country's unique features and harness its resources to translate the new electric vehicle strategy from good intent into real action.

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