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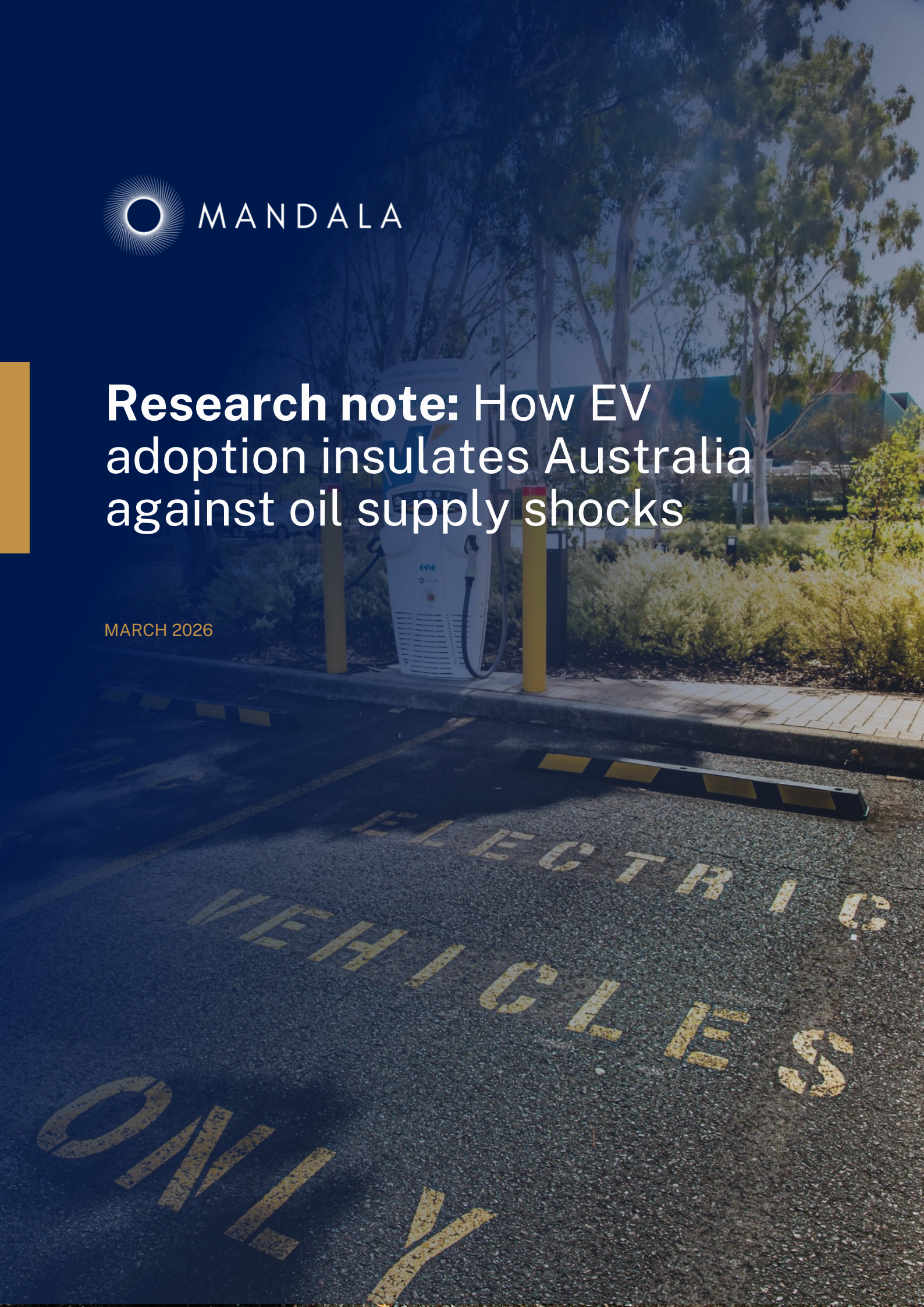
Research note: How EV adoption insulates Australia against oil supply shocks

MARCH 2026



Note: All dollar figures are Australian dollars unless indicated otherwise.

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EV adoption can insulate Australians against oil supply shocks

Energy Minister Chris Bowen has confirmed Australia holds 36 days of petrol, 34 days of diesel, and 32 days of jet fuel in reserve.[1] These figures are consumption cover days, calculated by dividing current stock levels by average daily consumption over the previous 12 months, giving a sense of how long supplies would last under normal conditions.

Australia's EV fleet, both hybrid and fully battery, has started to materially increase Australia's fuel independence, with passenger EVs already saving the equivalent of 1.2 days of petrol use. This benefit is highlighted by the current supply shock: our fuel supply remains anchored to one of the world's least stable regions, and every reduction in Middle East dependence counts.

Policies such as the FBT exemption for EVs and the New Vehicle Efficiency Standard have helped, but Australia still trails global leaders significantly. If Australia matched Norway's EV penetration rate, the highest in the world, our petrol reserve cover would grow by 11 days, a 30 per cent increase on the current 36-day reserve.[2]

Fuel security is only part of the picture. EV drivers are insulated from the price shocks now hitting ICE drivers. Although it takes at least seven days for crude oil price movements to flow through to Australian bowsers, panic-buying and a sudden surge in demand have already pushed petrol prices up by nearly 30c/litre since the US and Israeli strikes on Iran.[3,4] Forecasts point to a further 30 per cent increase above pre-conflict levels if the Strait of Hormuz remains disrupted.[3] If prices stay elevated for a year, the average two ICE-vehicle household could face more than $700 in additional annual fuel costs, a rise of at least 23 per cent on pre-strike fuel bills.

[1] Reuters (2026) *Australia tells consumers no need to panic buy petrol over Iran war as stocks high*.
[2] The underlying assumption is that as EV penetration grows to Norway-like levels, the remaining ICE fleet retains its current Australian diesel-to-petrol ratio. The distribution between diesel and petrol ICE vehicles may change in future.
[3] Drive (2026) *Fuel prices already rising amid conflict in Middle East, as servos accused of price gouging*.
[4] ACCC (2026) *Petrol price cycles in the 5 largest cities*.

Background

The IEA measures reserves differently to the number reported by Minister Bowen. The IEA uses net imports (total imports minus exports) rather than consumption as the denominator, and cover all oil products as a single combined figure. IEA member countries are obligated to maintain stocks equivalent to at least 90 days on this basis, as a buffer enabling collective response to severe supply disruptions. The two measures aren't directly comparable, but by any standard the picture is poor: Australia is the only IEA member below the 90-day threshold, and it has never been compliant with this obligation.[5]

Methodology

EV Impact on petrol reserves

1. Collated data from the Bureau of Infrastructure and Transport Research Economics (BITRE) and the Australian Bureau of Statistics (ABS) on registered passenger vehicles by motive power type, and fuel consumption by vehicle type.
2. Determined the share of petrol and diesel consumption that HEVs and BEVs effectively displace. BEVs use no liquid fuel, while HEVs only partially displace it, so they were treated separately. The HEV displacement rate was derived from data reported by the ABC on the share of trip HEV drivers travel in electric versus ICE mode. Both were assumed to be driven the same way as the ICE vehicles they replace.
3. Determined what proportion of total national petrol and diesel consumption is attributable to passenger transport, from the ABS data and desktop research.
4. Calculated avoided petrol and diesel consumption from passenger HEVs and BEVs, and applied this to current reserve cover to find the gain in days of supply.
5. For the Norway comparison, we applied Norway's registered passenger vehicle segmentation (gathered from the Norwegian Electric Vehicle Association) to Australia's national passenger fleet size, and repeated steps 2 to 4. Norway's petrol/diesel split among ICE vehicles was used rather than Australia's, to reflect a real world composition of vehicles that would be displaced by EVs.

Consumer savings

1. Collated average electricity prices from Canstar, average annual vehicle kilometres travelled from the ABS/Australian Electric Vehicle Association, and petrol prices in major cities from the ACCC for 24 February and 3 March 2026.
2. Used a Solar Citizens tool to calculate the annual fuelling cost of a Hyundai Ioniq 5 (EV) and Hyundai Tucson (ICE) as representative average Australian vehicles. For the Tucson, costs were calculated both pre- and post-price surge.
3. Assuming an average Australian household owns two ICE vehicles, calculated the increase in annual fuel costs attributable to the price surge

[5] The Guardian (2026) *Labor says Australia won't run out of fuel due to the Iran conflict. So how much do we have and how long will it last?*

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