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EV Batteries Could Power Homes, but Brands Limit Access

August 3, 2025

– Categories: *Economics*



Electric vehicle (EV) batteries could power homes or support the grid, but some carmakers restrict access to this technology, citing warranty concerns.

Electric vehicle (EV) batteries hold enough energy to power homes for days or even stabilize the electricity grid, yet major car brands like Tesla impose restrictions that prevent owners from tapping into this potential. According to a 2025 ABC News report, EV batteries, averaging 80 kilowatt-hours (kWh) of capacity, could run an average Australian household for two days, per the Australian Renewable Energy Agency. This capability, known as vehicle-to-home (V2H) or vehicle-to-grid (V2G), allows EVs to discharge stored energy to homes or the grid, potentially reducing reliance on fossil fuels. However, not all manufacturers support this technology, limiting its adoption.

Richard Chapman, an EV owner, told ABC News that his Tesla cannot feed power back to his home because the company does not support bidirectional charging, except in the Cybertruck model. Using third-party equipment to enable this feature would void his \$100,000 vehicle's warranty, Chapman noted. Tesla's stance reflects a broader trend among some automakers who prioritize battery longevity and warranty protection over enabling V2H or V2G. In contrast, brands like Ford, Hyundai, and Nissan offer bidirectional charging in models like the F-150 Lightning and Ioniq 5, allowing owners to power homes during outages or sell energy back to the grid, as per a 2024 Reuters report.

The potential of V2G is significant. Ross De Rango, a former Electric Vehicle Council executive, stated to ABC News that if Australia's 15 million cars were EVs, their collective battery capacity could close coal-fired power stations. A 2023 Nature Communications study estimated that by 2030, EV batteries could meet global short-term grid storage needs with only 12-43% participation. Yet, regulatory hurdles and high costs for bidirectional chargers, often exceeding \$5,000, slow progress. In Australia, the Council of Australian Governments (COAG) has delayed V2G connectivity discussions until 2025, per a 2023 report from thedriven.io.

While the Australian Labor Party (ALP) government pushes renewable energy, critics argue its focus on broad climate targets overlooks practical barriers like V2G certification delays. As households face rising electricity costs, up 21% since 2008 per the Wall Street Journal, enabling EV batteries for home use could save money and boost energy independence, if only carmakers and regulators would fully embrace it.