



Early innovation on electric vehicles good news for consumers

Australia's retail energy market is delivering early wins when it comes to innovative retail offers for electric vehicle consumers – a sign that better power options lie ahead for homes and businesses.

The Australian Energy Market Commission's 2020 Retail Energy Competition Review has found that while it's still early days for electric vehicles in Australia, there is already a diverse range of related energy products and offers available – including some that promote 'smart charging' – where customers receive price incentives to recharge vehicles outside times of peak energy demand.

"This early innovation is a promising sign that energy retailers see electric vehicles as a valuable opportunity for future business growth," said AEMC Chief Executive Benn Barr.

"That's good news for customers because it promotes greater competition and results in more products that people want.

"Not only are the numbers of electric vehicles on our roads set to increase exponentially in the next decade, they will be central to the power system of the future. They can double as a home battery, earn money for households who sell battery power back to the grid and lower home energy bills. They can also be used to help manage supply and demand across the broader grid and cut emissions in the energy sector.

"To realise those benefits and keep retail innovation coming we need to make sure the regulations are fit-for-purpose. We must also work to prevent the electric vehicles becoming a stressor on the system during peak times because that will lead to extra network investment and higher wholesale prices. We need to put the right structures in place for electric vehicles to be an energy tool, not a drain on the power system."

The Commission's 2020 Competition Review has assessed the state of play on efforts to efficiently integrate energy supply and demand from electric vehicles (EVs) into the grid.

It found the considerable work already underway both within the AEMC and across other energy market bodies and industry organisations would drive the necessary reforms.

"The key will be maintaining the momentum and working together so we can act decisively and quickly to prepare for the change that is coming," Mr Barr said. "Getting this right will mean *all* energy customers benefit from electric vehicles – whether they drive one or not."

Regulatory work already underway includes:

- developing a two-sided energy market, which will empower customers to sell energy from EVs to the grid when prices are high and charge when prices are low.
- setting minimum standards for 'distributed energy resources' like EVs, small-scale solar and energy storage technologies,
- designing ways for energy networks to manage access, connection and pricing
- reviewing metering arrangements and rolling out smart meters
- investigating ways to make it easier and cheaper for customers to have multiple retailers for different types of energy loads e.g. solar panels vs EVs
- trials of virtual power plants, which can include electric vehicle loads as sources of energy or demand response.

By the mid-2030s electric vehicles are forecast to become the primary driver of increased energy consumption in Australia. While traditional vehicle sales are declining in Australia, EV sales increased by more than 200% between 2018 and 2019.

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This is in line with international trends. The number of public EV charging stations also increased by 140% during the same period. And while there are 22 EV models currently available, at least another nine are expected to be introduced this year.

The Competition Review report said that government policies supporting EV uptake represent an opportunity to build more flexibility into the national electricity market and boost the integration of renewables into the system.

Energy retailers offering EV deals

- AGL
- Powershop
- Red Energy
- Ergon Energy
- Origin

Other EV innovation in the works

- **OVO Energy** (the UK's second-largest energy retailer and new to Australian market) trialling Vehicle-to-Grid (V2G) technology in 1000 households using a Nissan Leaf or e-NV200. V2G technology uses EV batteries to discharge electricity back to the energy grid
- **Self-charging EVs** with integrated solar panels being developed locally by Applied Electric Vehicles and internationally through Toyota, Sono Motors and Lightyear.

Australian government electric vehicles policies

Jurisdiction	Policy
Commonwealth	<p>The Federal Government's Technology Investment Roadmap Discussion Paper identified EVs as a priority low emissions technology for inclusion in the first Low Emissions Technology Statement, which will distil priority technologies for short-, medium- and long-term impact</p> <ul style="list-style-type: none"> • The Federal Government is currently preparing A National Electric Vehicles Strategy which is expected to be finalised in 2020.
Victoria	<ul style="list-style-type: none"> • Funding a commercial EV manufacturing facility that is being established in Morwell and commencing operations in 2021, manufacturing around 2,400 vehicles per year • investment in ultra-rapid and fast chargers at 7 locations • \$100 discount in annual registration for EVs • currently developing a Zero Emissions Vehicle Roadmap.
Tasmania	<ul style="list-style-type: none"> • Electric Vehicle Working Group: developing a coordinated approach to support the uptake of EVs in Tasmania • EV ChargeSmart Grants Program: grant funding to support a statewide EV charging network (fast, destination and workplace chargers) • Smarter Fleets Program: preparing State/Local Government fleets for EV uptake • community awareness of EVs: supporting a variety of events including community EV 'try and drive' events and a driverless electric bus demonstration.
ACT	<ul style="list-style-type: none"> • All newly leased passenger fleet vehicles will be zero emissions vehicles from 2020–21) • an annual vehicle registration discount of 20 per cent for zero emissions vehicles • zero emissions vehicles can use transit lanes until 2023.
South Australia	<ul style="list-style-type: none"> • Climate Change Strategy under development including a focus on transport emissions • SA Government considering contribution that smart charging of EVs could make to increase total electricity consumption and make efficient use of the grid during off-peak and high renewable generation periods to reduce electricity prices
NSW	<ul style="list-style-type: none"> • Target for all NSW agencies of 30 per cent new passenger vehicles to be electric or hybrid by 2023 • plans to replace Sydney's bus fleet with electric buses • developing an Electric Vehicle Infrastructure and Model Availability Program.
Queensland	<ul style="list-style-type: none"> • Consumer awareness website: The Future is Electric • phase 2 of the Queensland Electric Super Highway is under development • battery EVs registered in QLD attract lower registration fees • invested \$2.5 million in Tritium.

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