Shifting Gears: The Australian Electric Vehicle Market to 2030

A Private Report for Strategic Research Service Clients
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1.0 Overview

Australia’s Electric Vehicle (EV) market has finally shifted into higher gear on the back of substantially improved model availability, better technology and pricing choices and emerging long-haul charging infrastructure. While 2014 EV sales quadrupled, numbers remain insignificant (0.1% of vehicle sales). However, the building blocks for demand inflexion are on the horizon.

In this Private Report for our Strategic Research Service clients, Energeia provides its latest view on best practice policy; the size and timing of the Australian market opportunity for vehicles; charging infrastructure and energy pricing plans; and the competitive landscape (including incumbent positioning strategies, product and service portfolios, strategic partnerships and market shares). This report picks up where the last report left off in mid-2013.

Internationally, leading markets in Norway and the Netherlands have seen EVs become top sellers, with subsidies of up to A$30,000, which are now under review. In Australia, government support of EVs languishes at under A$1,000 per EV. Early state government led policy support has for the most part stalled, while local government activity focused on planning standards remains patchy. Greater Commonwealth policy support is now in view under the 2015 National Energy Productivity Plan.

Overall, Australian EV adoption remains low compared to other industrialised nations, in terms of vehicle market share and the deployment of public charging infrastructure. However, pockets of success exist, including Tesla and Mitsubishi, who have each parlayed early market entry experience into a winning formula. In Mitsubishi’s case, they have addressed the key market barriers of price premiums and range anxiety using PHEV technology in the popular Outlander model.

Despite the exit of the major US player, ECOtality, in 2014 due to the bankruptcy of its US operation, the rollout of public charging facilities has grown strongly over the past two years. DC charging networks have emerged via the Tesla Supercharger DC network connecting Sydney and Melbourne and a similar DC network funded by the Royal Automobile Club of Western Australia connecting Perth and Margaret River. Meanwhile, ChargePoint has become the dominant AC charging network operator, with over 80% of the market.

Energeia’s view of the Australian EV market has improved since our last report, which forecast 6.5% of new sales by 2022. Based on our updated EV uptake model, Energeia now sees 7.7% of new sales by 2022, and ~300,000 overall vehicle sales (22% penetration rate) by 2030. This amounts to an estimated Australian EV fleet of 2.2 million vehicles, consuming 4.4 TWh of electricity annually (2% of NEM), which represents 79 GWh of potential battery storage by 2030.

Key Australian EV market developments anticipated by Energeia in this report include rapid expansion of DC fast charging networks along Australia’s major transit routes; the availability and widespread adoption of wireless charging technology due to its superior convenience; the rise in EV driving among renters and apartment dwellers through car sharing networks; and the emergence of specialised EV load shaping businesses providing valuable services to customers and industry.

Australia’s current EV market winners are clear, with daylight appearing between Tesla, Mitsubishi, ChargePoint and their nearest competitors. With a winning formula now apparent, Energeia expects a wave of OEM fast-followers to emerge over the next five years, leading to wider choices for customers. Beyond the DC and car share rollouts, long-term success in the charging space will require finding the right business model.
2.0 Introduction

This Private Report covers developments relating to the Australian EV market, updating our previous EV research update, “Jumpstart”, issued in July 2013. The outlook in this report is based on updated modelling which analyses EV uptake by buyer segment and vehicle model type, and expands our coverage of Plug-in Hybrid Electric Vehicles (PHEVs) and charging service plans.

2.1 Scope

Energeia’s Strategic Research service focuses on the emerging energy technologies that will power the customer of the future. This report addresses the:

- EV market including Battery Electric Vehicles (BEVs) and Plug in Hybrid Vehicles (PHEVs), excluding Hybrid Electric Vehicles (HEVs)
- Industry value chain that will develop, manufacture, distribute and service the EV market over the next 15 years, including charging technologies and service plans.

Our research includes market analysis of passenger EVs for government, commercial and private use, publicly installed EV supply equipment and related products, services and technology.

For the first time we cover Light Duty Vans (sub 2.5 tonnes), however scooters, bicycles and vehicles over 2.5 tonnes remain out of scope.

Energeia’s market analysis is focussed upon the major Eastern states of New South Wales (NSW), Queensland (QLD), Victoria (VIC) and South Australia (SA). Although they may be referenced in passing, Western Australia (WA), Tasmania (TAS), Northern Territory (NT) and the Australian Capital Territory (ACT) are out of scope.

2.2 Definitions

Energeia defines EVs to include BEVs and PHEVs. Range Extended Electric Vehicles (REEVs), such as the Holden Volt, are also considered to be a PHEV. HEVs such as the Toyota Prius are not included as they do not utilise the electricity network.

Our references to charging stations or chargers are to EV supply equipment, which cannot be used to recharge EV batteries directly. This equipment supplies electricity to the on-board EV recharging system, which converts it as required to recharge the batteries. Power supplied to the vehicle by the charger may be AC or DC, depending on the charging standard.
2.3 Structure

The report is structured into the following main sections:

1. **Overview** – Provides a high level summary of the report and its key findings
2. **Introduction** – Outlines the scope and structure of the report and provides technical definitions and assumptions
3. **Policy and Regulation** – Assesses Commonwealth and State level policy and regulatory framework against international best practice
4. **Customers and Markets** – Reviews Australian EV and charging services demand, including the estimated size, profile and potential of key market segments
5. **Products and Services** – Analyses the supply side of Australian EVs and charging services, providing a performance assessment against market requirements
6. **Industry and Strategy** – Industry value chain assessment, including key challenges and opportunities, the incumbents and their associated strategies
7. **Outlook** – Presents Energeia’s proprietary outlook for EV and charging services policy and regulation, market demand, products, services and industry structure and strategy.