

**22 March 2024**

House of Representatives Standing Committee on Climate Change, Energy, Environment and Water  
Parliament of Australia

Submitted via the [online system](#)

### **Submission on the Inquiry into the transition to electric vehicles**

Nexa Advisory welcomes the announcement of the Parliamentary Inquiry into the transition to electric vehicles (the Inquiry) and we value the opportunity to share our perspectives and insights. We commend the Government's commitment to considering the necessary resources, systems and infrastructure required during the transition to electric vehicles (EV) and the implications of the move away from traditional combustion vehicles.

#### Context

Nexa Advisory appreciates the strategic coordination in addressing the rising demand for EVs in Australia in response to the National Electric Vehicle Strategy, which outlined establishment of "the resources, systems and infrastructure to enable rapid EV uptake" as a key objective<sup>1</sup>.

Overcoming barriers in EV uptake is critical for achieving Australia's emission reduction goals, given that vehicles contribute to about 13 per cent of the country's greenhouse gas emissions<sup>2</sup>. Advocating for policies to support the EV transition is pivotal for addressing climate concerns and economic pressures.

Nexa Advisory acknowledges the recent Federal Government announcement of a \$76 million funding package for EV loans, freight and infrastructure<sup>3</sup>, aligning with Nexa Advisory's call for enhanced subsidies for EVs<sup>4</sup>. Nexa Advisory is looking forward to the release of a detailed plan associated with this funding package.

Nexa Advisory emphasises that measures and incentives in support of EVs will lack effectiveness unless accompanied by a robust and ambitious New Vehicle Efficiency Standard (NVES). Timely implementation of the NVES is critical, and it is important that the

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<sup>1</sup> <https://www.dcceew.gov.au/sites/default/files/documents/national-electric-vehicle-strategy.pdf>

<sup>2</sup> <https://www.infrastructure.gov.au/department/media/publications/cleaner-cheaper-run-cars-australian-new-vehicle-efficiency-standard-consultation-impact-analysis>

<sup>3</sup> <https://minister.dcceew.gov.au/bowen/media-releases/76-million-funding-package-finance-ev-loans-freight-and-infrastructure#:~:text=Minister%20for%20Climate%20Change%20and,cleaner%2C%20cheaper%20to%20run%20vehicles.>

<sup>4</sup> <https://Nexa Advisory Advisoryadvisory.com.au/Nexa Advisory Advisory-advisorys-submission-national-electric-vehicle-strategy-consultation-paper/>

Inquiry does not hinder or delay its implementation, as we are already aware of its significant impact on increasing EV affordability, and consequently increasing adoption.

### Global trends impacting EV adoption

Globally, many leading nations are experiencing a plateau or decline in electric vehicle sales, prompting manufacturers to reduce new EV production<sup>5</sup>.

- Ford has postponed approximately \$12 billion in EV investment citing customer reluctance to pay a premium for EVs<sup>6</sup>.
- GM scaled back its goal of producing 40,000 EV units in North America by mid-2024, attributing the slowdown to below-expected battery and cell production<sup>7</sup>.
- Volkswagen postponed its East European Gigafactory as demand for EVs in Europe fell short of expectations<sup>8</sup>.
- Honda and GM abandoned a joint plan to develop affordable EVs<sup>9</sup>.

Various factors have contributed to this trend, and it is crucial for Australia to address them to maintain a robust EV adoption<sup>10</sup>:

- Charging infrastructure: gaps, availability and reliability of nation-wide charging infrastructure.
- Upfront vehicle costs: the bulk of EV purchases to date have been made by high-income households and there has been difficulty with engaging the lower income demographic.
- Supply chain shortages: supply chain challenges causing delays in production, resulting in a decreased supply of EVs.
- Lack of supportive policies: Governments have reduced EV incentives which has slowed demand.
- Technology competition: competition from other low-carbon mobility options such as hybrid vehicles.

Australia has a unique opportunity to take insights from these trends and challenges observed in other countries during the transition to EVs. **By examining these key factors hindering EV adoption elsewhere, Australia can proactively address them to pre-empt their impact on its own transition journey.**

<sup>5</sup> <https://www.reuters.com/business/autos-transportation/industry-pain-abounds-electric-car-demand-hits-slowdown-2024-01-30/>

<sup>6</sup> <https://www.cnbc.com/2023/10/26/ford-will-postpone-about-12-billion-in-ev-investment.html#:~:text=Autos-,Ford%20will%20postpone%20about%20%2412%20billion%20in,as%20buyers%20become%20more%20cautious&text=Ford%20said%20customers%20in%20North,billion%20in%20EV%20manufacturing%20investment.>

<sup>7</sup> <https://gmauthority.com/blog/2023/10/gm-abandons-goal-of-building-400000-evs-in-north-america-by-mid-2024/#:~:text=GM%20has%20announced%20that%20it,by%20the%20end%20of%202025.>

<sup>8</sup> <https://www.reuters.com/business/autos-transportation/volkswagen-not-planning-next-gigafactory-site-present-blume-2023-11-01/>

<sup>9</sup> [https://www.reuters.com/business/autos-transportation/honda-shelves-plan-co-develop-smaller-evs-with-gm-bloomberg-news-2023-10-25/#:~:text=TOKYO%2C%20Oct%202025%20\(Reuters\),try%20to%20beat%20Tesla%20\(TSLA.](https://www.reuters.com/business/autos-transportation/honda-shelves-plan-co-develop-smaller-evs-with-gm-bloomberg-news-2023-10-25/#:~:text=TOKYO%2C%20Oct%202025%20(Reuters),try%20to%20beat%20Tesla%20(TSLA.)

<sup>10</sup> <https://acapmag.com.au/2024/01/government-inquiry-into-national-ev-transition/>

### EV's impact on cost-of-living pressures

Passenger vehicles in Australia consume approximately 20 per cent more fuel than their counterparts in the US, imposing high costs on Australian's facing high fuel prices<sup>11</sup>. Improving vehicle efficiency offers an immediate benefit, ensuring that the average new car consumes less fuel to travel the same distance, thereby reducing fuel bills for Australians and alleviating financial pressures.

The proposed NVES anticipates delivering substantial benefits, including \$108 billion in fuel savings and an additional \$5.5 billion in health savings<sup>12</sup>. This equates to \$1000 or more savings per person in Australia on their annual fuel bills by the end of the decade.

Nexa Advisory strongly supports considering fuel savings and affordability, particularly for residents in outer regions, ensuring that the advantages of the EV transition are inclusive. The financial benefits from EVs will be most significant for regional drivers due to their long commutes, higher regional fuel prices and higher vehicle ownership rates.

Regional communities across Australia are also grappling with economic challenges and widespread energy poverty, largely stemming from historical challenges in electricity infrastructure and maintenance. These same communities often bear the responsibility of hosting critical national infrastructure projects, such as transmission lines and renewable energy installations, essential for phasing out aging coal power stations. However, the prevalence of energy poverty in these regions poses a significant obstacle to widespread electrification and the associated benefits of EVs, primarily due to inadequate distribution network capacity. Addressing these issues should be prioritised to ensure that regional communities are not left behind in the transition to EVs.

To achieve the maximum benefits on cost-of-living pressures through EV adoption, **Nexa Advisory recommends urgent implementation of the NVES alongside initiatives to address energy poverty in regional communities.**

### Aligning EV targets with emission reduction goals

The Australian Government has legislated an emission reduction target of 43 per cent by 2030 and net zero by 2050, however, in order to achieve this commitment, the Government must introduce complementary EV targets.

In order for Australia to achieve its climate targets, it is expected that more than 50% of all new cars sold in 2030 will need to be EVs<sup>13</sup>. This means Australia will need to aim for around 1 million EVs on our roads by the end of 2027.

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<sup>11</sup> <https://www.infrastructure.gov.au/department/media/publications/cleaner-cheaper-run-cars-australian-new-vehicle-efficiency-standard-consultation-impact-analysis>

<sup>12</sup> <https://www.infrastructure.gov.au/department/media/publications/cleaner-cheaper-run-cars-australian-new-vehicle-efficiency-standard-consultation-impact-analysis>

<sup>13</sup> [https://electricvehiclecouncil.com.au/wp-content/uploads/2023/07/State-of-EVs\\_July-2023\\_.pdf](https://electricvehiclecouncil.com.au/wp-content/uploads/2023/07/State-of-EVs_July-2023_.pdf)

The ACT continues to lead Australia with its target of 80-90% zero-emission vehicle sales by 2030 and a phase-out of new petrol and diesel cars by 2035<sup>14</sup>. To support its target, the ACT has implemented several policies that are consistent with leading countries. The Federal Government should look at align or surpass the EV target set by the ACT. Nexa Advisory advocates for a science-aligned vehicle emission reduction target, aiming for zero emissions in our new vehicle fleet by at least 2035.

In addition to setting science-aligned vehicle emission reduction targets, **Nexa Advisory recommends that the Australian Government introduce complementary EV targets to align with its emission reduction commitments.**

### *Reducing dependence on imports*

Another way Australia can draw benefits from the transition to EVs is by decreasing its dependence on foreign oil and mitigating supply chain vulnerabilities through the transition to EVs. The Ukraine-Russia conflict highlighted Australia's susceptibility to international oil prices and availability, which ultimately had an impact on local consumers.

In 2022, Australia consumed over 57 billion litres of fuel, with more than 90 per cent being imported from overseas<sup>15</sup>. Redirecting funds from fossil fuel imports to domestically produced energy can boost national security, supporting jobs throughout the entire EV supply chain, from mining and manufacturing to recycling.

### *National EV manufacturing*

Australia holds the capacity to participate in the entire EV value chain, including mining critical minerals, refining and processing, battery and vehicle components manufacturing, EV assembly, operation and maintenance and repurposing and recycling of batteries and components<sup>16</sup>. Australia currently mines many of the key resources needed for battery production, such as lithium, which is predominantly exported.

While an upscaling of various supply chains will be necessary, critical mineral extraction and processing should be prioritised due to long lead times<sup>17</sup>. Australia is well-positioned in this area, possessing the capacity for extracting and processing critical minerals. The government has an opportunity to leverage private investment in the sustainable mining of key battery materials immediately to prevent potential supply bottlenecks.

Nexa Advisory notes that, despite the National Electric Vehicle Strategy calling for a boost in local manufacturing throughout the EV component and battery supply chain, no additional support or initiatives have been introduced<sup>18</sup>.

Nexa Advisory acknowledges the Federal Government's initiatives directed towards enhancing the national clean energy and battery supply chain, such as the National Critical

<sup>14</sup> <https://www.climatechoices.act.gov.au/policy-programs/acts-zero-emissions-vehicles-strategy#:~:text=The%20ACT%20Government%20is%20actively,combustion%20engine%20vehicles%20by%202035>

<sup>15</sup> <https://www.energy.gov.au/energy-data/australian-petroleum-statistics>

<sup>16</sup> [https://electricvehiclecouncil.com.au/wp-content/uploads/2023/07/State-of-EVs\\_July-2023\\_.pdf](https://electricvehiclecouncil.com.au/wp-content/uploads/2023/07/State-of-EVs_July-2023_.pdf)

<sup>17</sup> <https://iea.blob.core.windows.net/assets/e0d2081d-487d-4818-8c59-69b638969f9e/GlobalElectricVehicleOutlook2022.pdf>

<sup>18</sup> <https://www.dcccew.gov.au/sites/default/files/documents/national-electric-vehicle-strategy.pdf>

Minerals Strategy, upcoming Battery Strategy and National Reconstruction Fund, as well as efforts by state governments to develop domestic battery industries. However, to maximise this opportunity, there is a need for greater strategic coordination across the nation.

**Nexa Advisory recommends prioritising domestic energy production to reduce reliance on imported fossil fuels, emphasising the needs for strategic coordination and increased support for local EV manufacturing and supply chains.**

### Smart charging advantages

Nexa Advisory notes that the Inquiry will be examining the impacts EVs bring to electricity consumption and demand. Nevertheless, we would like to encourage the Committee to also explore the benefits linked to the increasing adoption of EVs, particularly regarding electricity load balancing services facilitated by smart energy management.

Implementing smart energy management systems provides a practical solution to address minimum demand challenges in the electricity network. The integration of EVs introduces a new load to the National Electricity Market (NEM), contributing significantly. Coupled with incentive-driven tariffs for public charging, this benefits both the system and EV users. It has become clear that optimising energy system benefits can be achieved by establishing the right price signals and empowering consumers, which ultimately aligns with consumer preference.

Original Equipment Manufacturers (OEMs) play a crucial role in promoting smart charging by developing communication protocols, implementing load management strategies and facilitating V2G technology. While a South Australian trial has demonstrated this in a limited capacity, further investigation for use across Australia is needed<sup>19</sup>.

For instance, V2G technology can allow EVs to serve as energy storage systems, contributing to grid stabilisation while recharging during low-demand periods. OEMs utilising V2G can transfer electricity between EV batteries and the power grid, providing owners with incentives for selling excess energy back during peak hours.

A critical consideration is consumer control and flexibility. Learning from distributed energy resource (DER) experience, establishing early consumer trust is essential for effective smart EV energy management. Solutions must prioritise consumer outcomes, incentivising behaviour and building trust to facilitate the development of more effective solutions.

The Inquiry should also explore updated standards and regulations that align with the potential of smart energy management. Realising the full benefits of this management approach requires improved technical standards and regulations for DER. Standards and regulations should follow the International Electrotechnical Commission (IEC) standards to ensure alignment with global supply chains.

Nexa Advisory cautions against implementation of complex state-based technical standards imposed by distribution network services providers (DNSPs). DNSPs should adhere to

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<sup>19</sup> <https://www.energymining.sa.gov.au/industry/modern-energy/electric-vehicles/smart-charging-trials>

guidelines that hold them accountable for delivering net positive benefits to consumers. We advocate for nationally consistent energy policies for integrating EVs into the grid, ensuring consumer benefits are prioritised, rather than overly restrictive measures that impede consumers' charging decisions, as seen in Queensland and South Australia<sup>20</sup>. These restrictive measures imposed by DNSPs are short-sighted and detrimental to EV adoption and limit consumer options for home charging and may not align with the best interests of consumers.

**Nexa Advisory recommends that the Inquiry not only examine the electricity consumption impacts of EVs but also explore the benefits of smart energy management, including load balancing services. This includes setting national consistent energy policies to facilitate EV integration into the grid.**

### Address power supply challenges

The industry must prioritise user experience and meeting the needs of new customers, as ultimately, they are the ones responsible for adopting EVs. Nexa Advisory believes the Inquiry should investigate the importance of public charging and its role in consumer EV uptake. Although governments have funded several programs aimed at promoting EV adoption, little has been done to support one of the critical links in the EV chain - the provision of power supplies.

For widespread EV adoption, consumers need confidence in the accessibility and reliability of EV charging. State and Federal governments are providing funding to support the growth of EV charging infrastructure, however, ensuring timely, cost-effective access to electricity supply is crucial for building this EV infrastructure. The lengthy and costly process of securing power supply from DNSPs remains a significant bottleneck in EV charging infrastructure deployment and has the potential to increase costs for consumers.

Regulatory and policy settings need to be reviewed and updated to support this significant change in how the electricity network is being used. If government EV adoption targets are to be met, the provision of electricity supplies for EV charging must be:

- Delivered in a timely manner that allows charging service providers to build infrastructure expeditiously;
- Have the capacity to meet initial requirements and accommodate future upgrades to meet increased consumer demand;
- Cost-effective, ensuring consumers do not bear the burden of costly network infrastructure costs;
- Supported by policies and funding to incentivise DNSPs to deliver services efficiently; and
- Priced based on tariff structures that consider network usage relative to the initial cost of supply provision.

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<sup>20</sup> [https://electricvehiclecouncil.com.au/wp-content/uploads/2023/07/State-of-EVs\\_July-2023\\_.pdf](https://electricvehiclecouncil.com.au/wp-content/uploads/2023/07/State-of-EVs_July-2023_.pdf)



**Nexa Advisory recommends prioritising user experience and addressing the critical link of timely, cost-effective access to power supply in EV adoption through a review of DNSP Network Price determinations and economic regulatory framework. This can be done through the Australian Energy Regulator and directed by State Energy Ministers.**

### Avoid unnecessary and inefficient governance

Efficient regulation and governance is critical at this stage of Australia's EV transition. It is important to ensure that we avoid inefficient regulation and unnecessary cost burdens on consumers as a result. Recently, the National Measurement Institute (NMI) proposed the adoption of a standard mandating electricity metering in charging infrastructure for energy sales to consumers<sup>21</sup>. This recommendation involves utilising the draft standard, OIML G 22:2022 Electric Vehicle Supply Equipment (EVSE), which requires costly electrical metering on all EV chargers involved in financial transactions<sup>22</sup>. This requirement extends to chargers used in public spaces, offices, or homes where energy is exchanged for money.

Additionally, this proposal would entail establishing a nationwide bureaucratic framework to oversee regulatory compliance, maintain records of regulated EV chargers, and monitor compliance of EV chargers in the field. Ultimately, these additional administrative burdens would translate into increased costs for providing paid charging, which consumers would ultimately bear through high energy prices.

Nexa Advisory cautions that such measures could hinder the rapid expansion of EV charging infrastructure due to the associated costs and inefficiencies of maintaining compliance. Currently, the metering accuracy of available EV chargers in Australia meets the needs of consumers, businesses, and charging service providers without issue. The NMI has not provided sufficient justification or conducted a cost impact assessment for implementing this standard. **Therefore, Nexa Advisory recommends rejecting the NMI proposal unless it can demonstrate clear value for consumers.**

### Prompt implementation of the New Vehicle Efficiency Standard

Nexa Advisory urges Australia to adopt vehicle efficiency standards that not only align with but ideally surpass global benchmarks. Meeting or exceeding existing standards in other markets is crucial for Australia to stand out and attract EV manufacturers, otherwise Australia risks simply being added to the queue for EVs. Australia's NVES must be strong, competitive and meticulously designed. To unlock the advantages of the NVES, Australia must compete with major markets already favoured by manufacturers.

Aligning with the EU vehicle efficiency standards provides the most effective position for Australia. The comprehensiveness and progression of the EU standards exceed those of other countries, offering additional incentives for manufacturers to prioritise introducing their most efficient vehicles to the EU market ahead of others.

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<sup>21</sup> <https://consult.industry.gov.au/general-certificate-of-approval-for-electric-vehicle-supply-equipment-evse>

<sup>22</sup> [https://www.oiml.org/en/publications/guides/en/files/pdf\\_g/g022-e22.pdf](https://www.oiml.org/en/publications/guides/en/files/pdf_g/g022-e22.pdf)

If the Australian NVES does not correspondingly align with the emission reductions seen in leading markets, especially the EU, there is a risk that Australia's greenhouse gas reduction and EV adoption efforts may lag.

**Nexa Advisory recommends that Australia adopt vehicle efficiency standards that aim to surpass global benchmarks, particularly aligning with the EU standard, to increase competitiveness and attract EV manufacturers.**

### Concluding remarks

Nexa Advisory appreciates the Inquiry's emphasis on the need for a holistic approach to address the challenges and opportunities of the transition to EVs. Nexa Advisory supports the implementation of legislated targets, support for local manufacturing, smart energy systems, and addressing power supply challenges to drive a successful and timely transition to EVs while providing benefits for cost-of-living pressures and reducing our reliance on foreign imports.

Nexa Advisory underscores the critical role of a strong NVES and its timely implementation to secure a diverse EV market in Australia. Supportive measures for EVs will not be effective without the presence of a strong and ambitious NVES. The risk of low EV adoption poses a challenge to meeting Australia's legislated emission reduction targets, underscoring the importance of positioning Australia competitively. Prioritising the implementation of the NVES is crucial.

Thank you again for the opportunity to provide our insights into this important inquiry. Please contact me if you need to discuss our submission in more detail.

Yours Sincerely,

Stephanie Bashir  
CEO and Principal  
**Nexa Advisory**



## About Nexa Advisory

Nexa Advisory is a full-service advisory firm. We work with public and private clients including renewable energy developers, investors and climate impact philanthropists to help accelerate efforts towards a clean energy transition. We've been shaping the energy industry for over 20 years. With a proven track record across policy creation, advocacy, political risk assessment and project delivery, we're holistic in our approach and deliver solutions with commercial intent.

The Nexa Advisory team is a collaboration of passionate energy specialists, all committed to the successful transformation of Australia's energy markets. The team is focused on helping clients grasp the unpredicted opportunities the energy transformation will bring. The decentralisation of energy promises, for the first time, to enable a truly democratised ecosystem with people and communities at the centre. We believe in an energy industry where people are at the centre of every recommendation we make. This belief guides our approach to the challenges we solve, and the outcomes we create.