






22 March 2024

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

Submitted online

Dear Committee Members,

**Ausgrid, Endeavour Energy and Essential Energy joint submission to the Inquiry into the transition to electric vehicles**

Ausgrid, Endeavour Energy and Essential Energy (together, the NSW distribution network service providers (**DNSPs**)) thank the House of Representatives Standing Committee on Climate Change, Energy, Environment, and Water (**the Committee**) for the opportunity to provide a submission to the Inquiry into the transition to electric vehicles (**the Inquiry**).

The NSW DNSPs are economic enablers for metropolitan, regional, rural and remote NSW communities: Collectively we are:

- Ausgrid, which operates a shared electricity network that powers the homes and businesses of more than 4 million people living and working in an area that covers over 22,000 square kilometres from the Sydney CBD to the Upper Hunter;
- Endeavour Energy, which manages the electricity distribution network servicing 2.7 million people in homes and businesses across Sydney's Greater West, the Blue Mountains, the Southern Highlands, the lllawarra and the South Coast of NSW; and
- Essential Energy, which operates and maintains one of Australia's largest electricity networks covering 95% of NSW and parts of Southern Queensland, which services around 890,000 customer premises.

The NSW DNSPs congratulate the Federal Government for introducing and progressing the National Electric Vehicle Strategy. We recognise the impacts of associated legislative and regulatory activity which will support the transition to electric vehicles (**EVs)**, including the proposed New Vehicle Emissions Standard, and the Safer Freight Vehicles package which will further increase the uptake of EV trucks.

The NSW DNSPs are playing a key role in facilitating the EV transition by:

- Facilitating access to our infrastructure to allow third parties to roll out kerbside EV charging on our existing power poles and kiosk substations which will improve accessibility to EV chargers and enable EV chargers to be installed faster, at lower cost, and with minimal disruption to the community.
- Investing in grid enhancements and trials to support EV charging, including Vehicle to Grid charging.
- Implementing new tariffs which incentivise EV charging outside peak demand periods to limit impacts on the network.
- Transitioning our own fleets to EVs and helping to develop the skills base needed to support the energy transition.

Our work is intended to align with broader government and industry efforts to increase uptake of EVs in Australia. It reflects the expectations of our connected customers. EVs will make a critical contribution to Australia's net zero emissions objectives. They are in many use cases cheaper to run than internal combustion alternatives today, and these benefits are likely to increase over time as technology improves. The NSW DNSPs encourage the Committee to:

- Support the adoption of the National Electric Vehicle Strategy.
- Support legislation to apply emissions standards to new vehicles aligned with comparable international markets
- Recognise the role played by distribution networks in facilitating the EV transition and support regulatory reforms to allow DNSPs to roll out kerbside charging infrastructure to complement at-home and fast charging alternatives.
- Accelerate the adoption and updating of Australian standards and consumer protections relating to EV interoperability, charging infrastructure and vehicle to grid operations.
- Reinforce the need for energy regulators and the energy sector to implement electricity tariff structures that encourage efficient off-peak charging of EVs and which allow EV customers to benefit from selling electricity back to the grid at peak times when it is needed most.

Further detail on our response to the Inquiry's terms of reference is attached. We welcome the opportunity to discuss any aspect of this submission with the Committee. For further information please contact:

- Ausgrid: Nick Black, Head of EVCI and Infrastructure Development, at [redacted]
- Endeavour Energy: Emma Ringland, Head of Regulation and Investments, at [redacted] and
- Essential Energy: Hilary Priest, Head of Regulatory Affairs at [redacted]

Yours sincerely,

[redacted]

Rob Amphlett Lewis
Group Executive, Distributed Services and Plus ES
**Ausgrid**

Colin Crisafulli
General Manager Customer Future Grid
**Endeavour Energy**

Annie Pearson
Chief Corporate Affairs Officer
**Essential Energy**

**Attachment A: NSW DNSPs' submission to the Inquiry into the transition to electric vehicles**

## 1. The establishment of resources, systems and infrastructure required to support transition to EVs

Ausgrid, Endeavour Energy, and Essential Energy (**the NSW DNSPs**) support the transition to electric vehicles (**EVs**). Reducing the emissions from road transport will be a central part of NSW's and Australia's journey to becoming a net zero economy by 2050. In 2022, the Federal Department of Climate Change, Energy, the Environment and Water (**DCCEEW**) projected in 2022 that, without intervention, road transport would become Australia's largest source of emissions by 2030.[1] As we transition our own electricity distribution networks, we are also making investments and putting measures in place that will help to decarbonise emissions across the economy. In addition to the environmental benefits, we know from deploying EVs in our own commercial fleets that switching from internal combustion engine (**ICE**) vehicles to EVs can also drive down running costs – savings that benefit our customers and which demonstrate what households and businesses can achieve in the energy transition.

The NSW DNSPs have a central role to play in the transition in ensuring that EV charging is accessible, that a lack of charging does not impede EV uptake, and that infrastructure installed on our networks is deployed safely and efficiently. EVs have the potential capability to reduce overall costs of living by lowering the costs of transport. However, this potential will not be realised if there is a lack of public confidence in charging systems, a poor customer experience in owning and running an EV, or if the choice and availability of vehicle models on the Australian market remains limited. Australia presently trails peer nations in transitioning to EVs. As the National Electric Vehicle Strategy outlines, "Electric vehicle sales account for around 9% of the global car market in 2021; 15% in the UK, 17% in the EU and 4.5% in the US" but "accounted for 3.8% of [Australia's] national car market in 2022."

There are a range of circumstances where DNSPs can deploy EV charging infrastructure (**EVCI)** which is cheaper to install and use, more quickly than alternative providers, and with less disruption to the community. However, we are restricted from doing so under our current regulatory frameworks. By accommodating a DNSP-facilitated rollout of kerbside EV charging to supplement the deployment of fast-charging infrastructure, Australia can catch up with best international practice, create consistent user experiences across Australia's states and territories, and make EV ownership more accessible for the wider community. US studies have shown that a two-fold increase in the number of chargers could lead to a more than doubling of the number of EV drivers.[2] According to the International Energy Agency, the world average for EV charging provision is 10 EVs per charging point, and 2.41kW of public charging per EV. Australia is a clear laggard, with 35 EVs for every charging point.[3]

In Ausgrid's service area alone, around 30% of households have no access to off-street parking because they live in terraces, live in apartment buildings that are too costly to retrofit to accommodate charging, or are renting. Many of these residents will benefit most from the savings EVs will bring but they face additional barriers to taking up an EV due to a lack of accessible and low-cost charging, and as a result they may delay their purchase of an EV. For example, a single charger on a pole could service the weekly charging needs of a small apartment block of 10 at a substantially lower cost than retrofitting an existing apartment building and be deployed much quicker as it would avoid the need for a potentially lengthy strata approval process.

[1] Department of Climate Change, Energy, the Environment and Water (2022) Reducing transport emissions; https://www.dcceew.gov.au/energy/transport

[2] Wolbertus et al., *Charging infrastructure roll-out strategies for large scale introduction of electric vehicles in urban areas: An agent-based simulation* study, 2021, https://www.researchgate.net/publication/350966798

[3] https://www.iea.org/reports/global-ev-outlook-2023/trends-in-charging-infrastructure

Residents who need to rely on public fast-charging will also miss out on the convenience of charging at home. Our analysis indicates they will pay significantly higher prices than people who are able to charge at home using retail tariffs, paying 45-78c/kWh from a public fast charger compared to 27-37c/kWh for home retail charging, or less than 11c/kWh when charging at home with solar, according to the Solar Choice Price Index. Furthermore, fast chargers place considerably more pressure on the grid than slower methods of charging, which may result in the need for further network expenditure.

More kerbside alternating current (**AC**) chargers, 'closer to home', that offer similar pricing to home charging will make the transition to EVs faster and more equitable and provide a better experience for consumers. Mounting AC chargers on distribution network poles could achieve this goal. We have already collaborated with commercial providers to develop pole-mounted chargers that drastically reduce the cost and disruption of installation because we use our existing power poles and kiosks and avoid excavation of streets and footpaths.

We could further reduce the cost of kerbside EVCI by deploying the assets as regulated distribution assets. Our widespread infrastructure, including power poles and kiosk substations, are already located in kerbside locations. Many of these assets are suitable for colocation of kerbside EVCI, resulting in cheaper installation costs for customers than if this rollout were led by other providers, while also preserving public amenity.

As businesses with durable long-term funding, we avoid the risk of chargers becoming abandoned or 'orphaned' assets. We can also better ensure their reliability as our field teams are setup to operate and maintain this infrastructure on a 24/7 basis. With these inherent advantages of a DNSP-led EVCI strategy, we could deploy at scale quickly and efficiently. This is particularly true for DNSPs operating in regional and remote areas, who can offer rapid and specialised expertise for fault and emergency services, further enhancing the viability and efficiency of a DNSP-led EVCI in these less-accessible locations.

DNSP-led kerbside EVCI will be able to nurture competition in the e-mobility services market by providing charging 'hardware-as-a-service' through which e-mobility service providers (**eMSPs**) can compete for customers' business through competitive pricing and innovative product packaging. DNSPs can leverage their existing capabilities in operating and maintaining assets and would be a 'neutral host' allowing any eMSP 'roaming' access to the widest portfolio of chargers at minimal cost, fostering competition, innovation, and driving down charging costs for EV drivers. This mirrors the roles that DNSPs and retailers play in electricity distribution - DNSPs operate and maintain the distribution network whilst retailers focus on product offerings for customers.

*Charging infrastructure in regional NSW*

Regional NSW has steeper barriers to commercially driven EVCI due to its low population density. The scarcity of both rapid and destination public charging points poses a challenge to the widespread adoption of EVs. The term 'range anxiety' has emerged as a significant psychological barrier for prospective EV owners who worry about the ability to travel long distances without convenient charging options. This is exacerbated in Essential Energy's network in regional and rural NSW where distances between towns and cities can be considerable.

Cost recovery of this charging infrastructure in the early stages is another hurdle. The capital investment needed for setting up and maintaining charging stations, especially rapid chargers, is substantial. In the initial phases, when EV adoption is still in its infancy, the low volume of usage in regional areas might not justify the investment, leading to a 'chicken and egg' problem; consumers are hesitant to switch to EVs due to limited infrastructure, and much of the competitive market in Essential Energy's network area is reluctant to invest in infrastructure without a critical mass of EV users.

While urban areas may serve as initial test beds for infrastructure development due to higher population density, focusing solely on them could lead to a two-tier system of urban vs regional

infrastructure availability and risk leaving behind regional NSW in the energy transition. Government grants, public-private partnerships, and community co-funded models could serve as potential solutions to overcome the economic challenges of infrastructure rollout in these regions. The rollout of kerbside EVCI by DNSPs using existing assets would also help to ensure that regional communities are not left out of the opportunities from transitioning to EVs.

Addressing the charging infrastructure issue, with a keen focus on regional Australia, is pivotal to unlocking the full spectrum of benefits that the EV transition can offer.

**The impact of moving from internal combustion engine vehicles, including fuel excise loss, existing auto industry component manufacturers and the environment**

It is important to recognise the benefits of EVs extend beyond the cost savings to drivers and the reduction in greenhouse gas emissions. Moving from ICEs to EVs will lead to significant improvements in other environmental indicators of air quality, particularly reductions in particulates, nitrogen oxides and sulphur oxides. All of these are caused by exhaust emissions from road transport, and all are associated with harmful effects on human health. These effects are highlighted in the National Electric Vehicle Strategy (**NEVS**)[4]. We encourage the Committee, and the Government, to ensure that the full range of benefits for the community are given consideration as EV policy is evaluated.

From deploying EVs in our own fleets, we also know that this can contribute to improved working environments for our staff, characterised by reduced noise pollution and the elimination of exhaust emissions. This transition not only contributes to a quieter, cleaner working environment but also has benefits for staff health and safety.

The transition from ICE vehicles to EVs necessitates a shift in fuel source from petroleum-based products to electricity, which will invariably increase energy supplied through the electricity network. The implications of this shift, including strategies for accommodating changes to electricity demand and ensuring the resilience of our electricity networks, are further explored in detail in the response to Question four.

## 2. The opportunities for fuel savings, such as by combining EVs with other consumer energy technologies and savings for outer suburban and regional motorists

Electrification of transport will lead to cost savings for drivers and improvements to energy system management that will benefit all electricity consumers. Basing its estimate on an average of 15,000 kilometres travelled annually, the EV Council calculated savings for EV drivers of $1,913/year, or 12.9 cents per kilometre, compared with a conventional ICE vehicle.[5] Combining EVs with other consumer energy technologies (especially household solar) and more widespread penetration of renewable electricity generation will maximise the environmental and consumer benefits of the EV transition.

*Combining EVs with Consumer Energy Resources*

One of the major expected benefits of EVs comes from how they may interact with and reinforce the benefits of other consumer energy resources (**CER**). As noted in the NVES, EVs could "play a key role in storing and later dispatching excess power generated from solar photovoltaic (PV) and other renewable energy systems, and potentially assist in electricity grid management".[6]

[4] Department of Climate Change, Energy, the Environment and Water (2023) National Electric Vehicle Strategy p. 11 https://www.dcceew.gov.au/sites/default/files/documents/national-electric-vehicle-strategy.pdf

[5] Cited in KPMG (2023) The Impact of EV Uptake on our networks https://assets.kpmg.com/content/dam/kpmg/au/pdf/2023/decarbonising-transport-impact-ev-uptake-on-networks.pdf

[6] Department of Climate Change, Energy, the Environment and Water (2023) National Electric Vehicle Strategy https://www.dcceew.gov.au/sites/default/files/documents/national-electric-vehicle-strategy.pdf

A key prerequisite to EVs delivering the greatest possible benefit will be the incorporation of smart charging, Vehicle to Home (**V2H**) and Vehicle to Grid (**V2G**) capabilities in vehicles brought to the Australian market, and in electricity system infrastructure including domestic and public chargers.

Electricity generation makes up 35% of Australia's greenhouse gas emissions and EVs can potentially reduce emissions in this sector via V2G technology, which will enable EVs to operate as batteries for energy storage. If this functionality becomes widely available, it could provide EV owners with significant financial benefits, ease network constraints during peak events, place downward pressure on energy prices, and assist in the transition to renewable energy. For example, 3 million EVs equipped with V2G capability would have enough dispatchable capacity, if it could be harnessed, to displace the 23 GW of firming capacity for certain periods of time currently derived from coal-fired generation.

The NSW DNSPs note the recent study from the Australian Renewable Energy Agency (**ARENA)** and EnX Consulting reviewing the opportunities and challenges for bidirectional charging. ARENA and EnX found "savings per household of $550 per annum" from V2G compared to smart charging.[7] The study highlightsthe need for policy that values V2G and V2H/B as a near term priority for industry development, and that networks should collaborate to develop more V2G-supportive tariffs including bidirectional network support tariffs.

NSW networks are investing in enhancing the value our customers are able to derive from their CER. Over the next five years, we are collectively investing more than $100 million of capital expenditure in measures which enable greater volumes of CER. We are also investing in grid enhancements where there is a risk that EV charging could overload the network. Without these investments, EV customers and their neighbours in these specific locations could experience decreased reliability.

Accessing the full benefits outlined in the NEVS of being able to store and dispatch excess solar production would necessitate a considerable uplift in Australia's V2H and V2G capabilities.

The immaturity of Australia's V2G and V2H marketplace compared with international peers is another example of the 'chicken and egg' challenge in EVs. Few V2G capable models have been brought to Australia by vehicle manufacturers, therefore there has been less development than has been seen overseas on enabling V2G from a network and regulatory perspective. NSW DNSPs are currently trialling network enhancements to enable V2G with a small number of early adopter customers, but much more needs to be done before the technology is widely available.

In particular, further work is needed on EV technical standards, testing facilities, and interoperability to realise the full benefits of V2G and V2H models. The EV technical standard which applies to V2G, AS4777.2, is currently under review to address challenges identified through trials such as the ARENA Realising Electric Vehicle-to-Grid Services Project. There are also limited testing facilities to assess smart and bidirectional EVs against Australian standards and perform certification testing. Australia could look to support local test facilities or collaborate with established international facilities which test to Australian standards. Further work is also needed to develop standards for interoperability and associated regulation to support EV integration and co-ordination of CER, as well as strengthen customer protections. The prospects for V2G technology are inherently uncertain, but key enabling actions can be taken to make it more likely that benefits are realised. Consequently, we support the following reforms:

- Make the completion of the review of AS4777.2 a priority to ensure it is completed as soon as possible, while also focussing on the development and implementation of related standards for the interoperability of EVs and charging infrastructure.
- Facilitate both the development of more Australian test facilities and MOUs with existing global test centres to ensure smart and bidirectional chargers can be tested quickly and efficiently to

[7] ARENA and Enx (2023) V2X.au Summary Report p. 6; https://arena.gov.au/knowledge-bank/v2x-au-summary-report-opportunities-and-challenges-for-bidirectional-charger-in-australia

ensure Australia can access the best technology in the world as quickly and as safely as possible.

- Review customer protections frameworks as they relate to EV charging, building on the AER's *Review of consumer protections for future energy services,* with a view to harmonising these protections under the existing national framework, rather than adhering to a bespoke solution.
- Progress tariff reforms, as described in response to Question 4.
- Continue trials and innovation projects focusing on understanding and quantifying V2G impacts and opportunities.

*Our use of EVs*

We are putting these words into action. Across our three businesses, we are investing in EVs over the next five years, including heavy electric vehicles. Ausgrid is planning to electrify 900 of its vans, cars and trucks by 2029, helping to reduce one of Ausgrid's largest contributors to Scope 1 emissions.[8] Essential Energy's investment in alternate propulsion technologies (for example, EVs, as well as plug-in hybrid vehicles, and fuel cell EVs) should reduce emissions by 10,300 tonnes of CO2 equivalent over 2024–29.[9] Endeavour Energy has committed to 100% zero emissions new fleet by 2030 where it is economic to do so, and for all fleet to be zero emissions by 2040.[10]

## 3. The impact on electricity consumption and demand

Over the course of the next five years, the compound annual growth rate for peak demand on the Ausgrid network is 1.1% per annum for both summer and winter peak demand. Steady growth in summer maximum demand is underpinned by continuation of elevated levels of commercial and industrial customer connection activity, population growth and EV uptake. This uplift in demand is offset by energy efficiency impacts and strong growth in rooftop solar uptake. In terms of transport, Ausgrid expect to see significant growth in the number of customers owning EVs in the Ausgrid network area, with annual energy consumption from EV charging to increase from around 20 GWh today to over 1,500 GWh by 2028/29.[11] Endeavour Energy also forecasts considerable annual growth in consumption attributable to EVs from 48 GWh today to 635 GWh by 2028/29.

Similarly Essential Energy forecasts a considerable escalation in its annual EV charging consumption demand. Essential Energy projections indicate a transition from current levels to a substantially higher demand, reflective of the rapid growth in the adoption of EVs across our rural and regional network. It is important to distinguish that this significant rise in *overall electricity demand*, specifically from EV charging, does not necessitate a meaningful increase in *peak demand*. Peak demand from EV charging is expected to increase at a slower rate than consumption due to flexible load initiatives that will shift consumption to optimal times.

At the same time, the carbon intensity of electricity to power EVs will decrease over time. The proportion of electricity on our networks generated from renewable sources is projected by DCCEEW to increase from 44% today to 82% by 2030.[12]

In other countries where EV uptake is higher, electricity demand has stayed stable because charging load can be managed, and because V2G capabilities can act as a solution to peak demand issues that

[8] Ausgrid (2023) 2024-29 Revised Regulatory Proposal; https://www.aer.gov.au/system/files/2023-12/Ausgrid%20-%20Revised%20proposal%20-%202024-29%20Revised%20Regulatory%20Proposal%20-%2030%20Nov%202023%20-%20public.pdf

[9] Essential Energy (2023) Regulatory Proposal p. 74 https://www.aer.gov.au/system/files/Essential%20Energy%20-%202024-29%20Regulatory%20Proposal%20-%20Jan23%20-%20Public.pdf

[10] Endeavour Energy (2023) Regulatory Proposal p. 36 https://www.aer.gov.au/system/files/Endeavour%20Energy%20-%200_01%20Regulatory%20Proposal%20-%20January%202023%20-%20Public.pdf

[11] Ausgrid (2023) Our Revised TSS Explanatory Statement for 2024-29 pp.55-56; https://www.aer.gov.au/documents/ausgrid-revised-proposal-att-82-our-tss-explanatory-statement-2024-29-30-nov-2023

[12] Department of Climate Change, Energy, the Environment and Water (2023) Australia's Emissions Projections 2023; p. 41 https://www.dcceew.gov.au/sites/default/files/documents/australias-emissions-projections-2023.pdf

could arise. Impacts will vary across our networks and within different locations in our networks. NSW DNSPs are working to identify localised constraints so that both EV and non-EV customers experience continued reliable service quality as EV ownership becomes more widespread. Even with significant increases in the uptake of EVs, there is expected to be enough diversity in how EVs are used and charged, that the effect on electricity networks will be manageable.

So that customers have access to the most affordable charging options outside of peak times and are dissuaded from charging at peak times that could put strain on the network, appropriate price signals are important. NSW DNSPs are developing tariff designs, in consultation with our customers and electricity retailers. EV specific tariffs for households face a barrier as distribution networks do not have visibility of EV ownership. However, our proposed cost reflective tariffs for the 2024 - 29 period incentivise EV charging to occur outside of peak periods, in particular:

- Our residential demand and time of use tariffs signal the higher costs of charging in the evening peak period and encourage charging outside peak times when network demand is low.
- Similarly, our customers with solar PV already have strong incentives to charge EVs during the day, using their own generation, to avoid all network (and retail) variable charges. Proposed export tariffs and the combined shoulder and off-peak energy charge will add to these incentives to charge during the day.

Another tool for managing network load could be through where EV heavy vehicle depots are located. As these become more common, DNSPs can use existing frameworks to ensure that they are located in places where the additional load does not strain networks and can be targeted to align with output from solar on other distributed energy sources.

## 4. The opportunities for expanding EV battery manufacturing, recycling, disposal and safety, and other opportunities for Australia in the automotive value chain to support the ongoing maintenance of EVs

We need a diverse and skilled workforce to deliver the projects that will support the energy transition.

Our businesses are at the forefront of bringing through apprentices and developing the skills base which will take Australia through the energy transition – including in relation to supporting EV infrastructure. Collectively we recruit around 200 apprentices each year, of which Essential Energy, as NSW's largest apprenticeship creator, accounts for 125.

Our apprentice programs will build on our existing significant workforces, which total over 9,000 workers across the NSW DNSPs. This existing, expert workforce will enable the roll-out and ongoing maintenance of kerbside EVCI to be undertaken in a safe and low-cost way.

To help meet the projected demand for new skills, Essential Energy has embarked on its largest apprenticeship recruitment campaign in more than 15 years and is expanding its training programs to fill the projected gaps in industry capability. Essential Energy is developing micro-courses to guide training on clean energy skills and expertise and plans to expand into accredited courses and training program components which will include courses on EV commissioning and decommissioning. Essential Energy also intends to explore its regional footprint, covering 95 per cent of NSW and areas of rural Queensland, for potential sites to host training programs for new and renewable technologies and plans to collaborate with tertiary institutions and industry peers to share research and resources.

Ausgrid has several existing initiatives that will be implemented or extended in the coming years, including our "Bright Sparks" program, which currently has 103 apprentices. Ausgrid has also established scholarships at the University of NSW, which support Indigenous students and women in engineering. Ausgrid is also planning to launch a training academy, which will look to support the transition of people from parallel industries, such as the coal industry, into the energy industry. This facility will leverage Ausgrid's existing training skills and potentially the additional knowledge from

other RTOs and tertiary institutions to provide energy specific training and qualifications to Ausgrid staff, our delivery partners, and the broader regional community.

## 5. The impact of Australia's limited EV supply compared to peer countries

Improving the availability of EVs across the range of price points and model sizes/capabilities will be important to realising the benefits outlined in this submission. We are pleased that the Government has recognised the need to target improvements to the quantity and variety of EVs brought to the Australian market. Achieving this, as the NEVS reflects, requires alignment across all the relevant elements of EV policy, including fuel standards, other vehicle standards and specifications, rules on the import of vehicles (including second-hand vehicles), charging infrastructure, taxes and duties.

The NSW DNSPs would support reforms aimed at increasing the volumes of EVs, including used EVs, made available to the Australian market. In particular, if the Government is to achieve the objectives related to increasing access to EVs for lower income households it needs to do more to support importation of (new and used) vehicles at lower price points, as has been done in New Zealand to expand buyers' options. DNSPs can do their part by improving access to kerbside, as well as household, charging infrastructure which can meet the needs of drivers without access to a driveway, or who are in rented accommodation. However, unless the supply of affordable vehicles sees a corresponding increase, these equity and access goals may not be fully realised.