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### **Victoria's Draft 30-Year Infrastructure Strategy, December 2020**

AGL Energy (**AGL**) welcomes the opportunity to provide feedback on Infrastructure Victoria's (**IV**) Draft 30-Year Infrastructure Strategy, December 2020 (**IV Strategy**).

AGL is one of Australia's leading integrated energy companies and one of the largest ASX listed owner, operator, and developer of renewable generation. Our diverse power generation portfolio includes base, peaking and intermediate generation plants, spread across traditional thermal generation as well as renewable sources and includes a substantial portfolio of assets located in Victoria.

AGL is also a significant retailer of energy and telecommunications with 4.2 million customer accounts across Australia. AGL is a market leader in the development of innovative products and services that enable consumers to make informed decisions on how and when to use their DER assets to optimise their energy load profile and better manage their energy costs. Our current DER product and services include our leading-edge Virtual Power Plant<sup>1</sup>, Peak Energy Rewards demand response program,<sup>2</sup> retail offer for electric vehicle (**EV**) owners<sup>3</sup> and EV subscription service.<sup>4</sup> Through our EV Orchestration Trial<sup>5</sup>, we are also seeking to understand how EVs could help the wider energy system by 'orchestrating' vehicle charging through smart chargers, Vehicle to Grid chargers and API technology.

Our feedback on the IV Strategy is based on our broad expertise across the energy, telecommunications and transport sectors and ongoing engagement in policy and regulatory design.

#### **Strategic direction**

IV's update to Victoria's 30-year infrastructure strategy presents an important opportunity to recalibrate Victoria's infrastructure priorities in response to the impacts of the COVID-19 pandemic as well as the suite of evolving mega-trends impacting Victoria's economy, including:

- Climate change and the effects of extreme bushfires;

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<sup>1</sup> For further information regarding AGL's Virtual Power Plant, currently available to customers in New South Wales, Queensland, South Australia and Victoria please refer to [https://www.agl.com.au/solar-renewables/solar-energy/bring-your-own-battery?cde=sem-r&gclid=EAlalQobChMlicjKmKuP5wIVjUrCh2eXwvVEAAYASAAEgLRPD\\_BwE&gclidsrc=aw.ds](https://www.agl.com.au/solar-renewables/solar-energy/bring-your-own-battery?cde=sem-r&gclid=EAlalQobChMlicjKmKuP5wIVjUrCh2eXwvVEAAYASAAEgLRPD_BwE&gclidsrc=aw.ds).

<sup>2</sup> See further AGL Peak Energy Rewards, available at <https://www.agl.com.au/newcampaigns/peakenergyrewards>.

<sup>3</sup> See further, AGL EV Plan, available at <https://www.agl.com.au/electric-vehicles>.

<sup>4</sup> See further, AGL Electric Vehicle Subscription, available at <https://www.agl.com.au/get-connected/electric-vehicles/ev-subscription>.

<sup>5</sup> See further, AGL Electric Vehicle Orchestration Trial, available at <https://arena.gov.au/projects/agl-electric-vehicle-orchestration-trial/>.



- Technological disruption, particularly in the context of Australia’s energy market transition and the emergence of electric vehicles (**EVs**); and
- Demographic shifts, that present in customers’ increasing desire towards more active participation and the delivery of more sustainable solutions.

AGL is generally supportive of the recommendations made in the IV Strategy.

However, cross-government collaboration will be required to deliver a harmonised policy and regulatory framework. Where possible the Victorian Government should lean into the Energy and Infrastructure and Transport National Cabinet Reform Committees and national market reform processes to develop a nationally harmonised approach. Complementary measures should also be deployed through Victoria’s state-based policy and regulatory levers.

With respect to energy related infrastructure needs, we offer the following insights to strength the success of the final Strategy:

- Supporting the transition towards EVs in accordance with Victoria’s legislated net zero emissions target;
- Spearheading electricity distribution network reform to facilitate DER grid integration and orchestration to provide greater investment certainty for DER customers;
- Driving greater action on energy efficiency and complementary measures such as behavioural demand response; and
- Addressing the broader trend towards digitisation and the need for fit-for purpose regulation to support a seamless digital experience for consumers.

Many aspects of Victoria’s infrastructure supply chain are impacted by a national policy and regulatory framework that serves to reduce cost to consumers and support consistent consumer outcomes through harmonised rules and technical standards. This is particularly so in relation to Australia’s energy market system and the emerging DER and EV markets:

- Transmission infrastructure planning and the development of Renewable Energy Zones (**REZ**) are the subject of substantial national reform that is being guided by the Australian Energy Market Operator’s (**AEMO**) Integrated System Plan (**ISP**) and the Energy Security Board is also proposing a national REZ framework.
- Emerging technologies such as DER and EVs present a range of novel challenges to support customer participation and value, from DER customers’ ability to realise value by providing services into Australia’s energy market system to EV customers’ ease of access to charging infrastructure and appropriate payment systems to support a seamless customer experience. To mitigate against any ‘rail gauge’ issues and/or risks of stranded assets, it is critical that IV’s recommendations contemplate cross-government collaboration in these areas to deliver a harmonised policy and regulatory framework.

Given the long-term time horizon for Victoria’s 30-year infrastructure strategy, it will also be important for IV’s recommendations to contemplate appropriate sequencing in terms of immediate, medium, and long-term actions. While we appreciate IV’s identification of high priority action to assist recovery from the COVID-19 pandemic, we consider that the time horizon for some of the recommendations could be revised to



appropriately align with Victoria's legislated net zero emissions target and the need for a nationally harmonised approach. This is particularly so in relation to the recommendations that address transport pricing reform and the treatment of Australia's emerging EV market.

We provide key recommendations and more detailed responses to the IV Strategy in the **Attachments**.

Should you have any questions in relation to this submission, please contact Kurt Winter, Regulatory Strategy Manager, on 03 8633 7204 or [KWinter@agl.com.au](mailto:KWinter@agl.com.au).

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Elizabeth Molyneux', is written over a light blue circular watermark.

Elizabeth Molyneux

**GM Policy and Markets Regulation**



## ATTACHMENT A – KEY RECOMMENDATIONS

AGL recommends the following:

1. In addition to requiring that public transport and government vehicle fleets transition towards EVs, consideration be given to programs to facilitate the transition of private vehicle fleets. To complement the five-year timeframe, quantitative EV targets should be set in the intervening five years to further stimulate replacement.
2. The development of design standards and payment principles for EV charging infrastructure be pursued through a nationally harmonised approach to deliver consistent consumer outcomes.
3. Consideration be given to fuel and transport pricing reform to accelerate the uptake of EVs in the short-term in accordance with Victoria’s legislated net zero emissions target whilst laying the groundwork for a nationally harmonised distance-based road user pricing framework in the long-term. We consider a sequenced approach should be pursued as follows:
  - a. Consider a nationally harmonised approach to phase out internal combustion engine vehicles during the next 30 years and complementary measures such as importation rules, emissions and fuel efficiency standards and the introduction of ‘elevator’ fuel fees to stimulate transition away from fossil fuel vehicles;
  - b. Develop complementary Victorian measures to incentivise EV uptake by removing upfront state charges not directly linked with services and setting EV targets;
  - c. Develop a nationally harmonised distance-based road user pricing framework that can be applied equally to internal combustion engine (ICE) vehicles and EVs. Initially, this framework should be applied to ICE vehicles only to test the parameters of the framework whilst supporting the continued development of Australia’s EV market; and
  - d. In the medium term (5-10 years and as EVs reach price parity with ICE vehicles), transition EVs into the road user pricing framework.
4. Broaden the approach aimed at incentivising uptake of zero emission freight vehicles to include time-limited incentives and support for charging infrastructure as part of a more holistic approach than the proposed curfew exemptions that addresses actual barriers to uptake. A similar approach should also be considered for taxis and rideshare vehicles.
5. Develop a work program for Victoria to spearhead electricity distribution network reform to support DER grid integration and orchestration to provide DER customers with access to all value streams thereby reducing payback periods, through a combination of market trials and cross-government initiatives.
6. Consider additional initiatives to drive greater action on energy efficiency and complementary measures such as behavioural demand response, including energy efficiency incentives to support upgrading existing housing stock, policies to leverage private sector green finance and programs to incentivise customer participation in behavioural demand response.
7. Implement demand management pricing by mandating time of use networks tariffs across Victoria’s distribution networks. We also encourage consideration of alternative approaches to tariff design, such as the bulk wholesale network tariff model.

8. In supporting transmission infrastructure augmentation to accommodate new renewable generation and improve network resilience, continue to be guided by the AEMO's ISP.
9. In developing REZs to meet Victoria's climate targets and facilitate well-located renewable energy development, support a coordinated approach across all NEM regions.
10. Ensure any framework that seeks to facilitate more resilient infrastructure build-back following emergency scenarios continues to be guided by an overarching efficiency assessment, that appropriately weighs the costs of infrastructure being delivered by the competitive market versus regulated monopoly businesses.
11. In contributing toward strategic power supply infrastructure upgrades for agriculture and regional manufacturing, consider opportunities for emerging technologies to support more cost-effective outcomes, including microgrids and supplementary DER investments provisioned through the competitive market.
12. In incorporating lessons of emergency reviews, consider cyber security risks including the including the Commonwealth Department of Home Affairs active consultation on reforms to critical infrastructure and systems of national significance as part of the National Cyber Security Strategy.



## ATTACHMENT B – DETAILED FEEDBACK ON THE IV STRATEGY

### 1. Navigate the energy transition

#### Electric vehicles

##### *Overarching policy and regulatory framework*

AGL believes that a nationally harmonised policy and regulatory framework would provide the optimal platform to support the uptake and grid integration of EVs. A nationally harmonised framework would best support businesses operating across the Australian economy, thereby enabling consistency in consumer outcomes. As the Commonwealth Senate Select Committee on Electric Vehicles concluded in 2019:

EVs are at the forefront of a major transformation of the world's transport sector [but] EV uptake in Australia lags behind that of other comparable countries due to a relative absence of overarching policy direction from the Australian Government.<sup>6</sup>

The focus of the Strategy should be for the Victorian government to work through the cross-government leadership groups, namely the Energy and Infrastructure and Transport National Cabinet Reform Committees, to develop a national EV roadmap that establishes a nationally agreed target and supporting policy initiatives.

In our view, the overarching policy and regulatory framework should focus on the following four areas:

1. *Increase the range and affordability of new and used EVs in the Australian market* - through emissions targets, vehicle fuel efficiency standards, quantitative EV targets and government fleet targets. AGL believes a nationally agreed EV target would drive coordinated cross-government initiatives with State and local governments in support of the national target. It would also establish a clear benchmark against which to measure ambition and progress across the national economy. Establishing an EV target is the centrepiece of most international government policy support frameworks for EVs, with the scope and scale of other supporting policies crafted to achieve that target.<sup>7</sup> We would therefore encourage the Victorian Government to work with the Commonwealth and other States to set a national target.
2. *Reduce consumers' "range anxiety"* - through concerted state policies on EV charging infrastructure planning and deployment including planning schemes to improve information asymmetry and early market competitive grant funding to stimulate efficient industry investment in charging infrastructure.
3. *Enable EV grid integration so that EVs can interact with Australia's energy markets for the benefit of all energy users* - through harmonised energy market rules and associated technical standards required to support innovative EV solutions such as demand response and orchestration. Through the Distributed Energy Integration Program (DEIP) and its EV Taskforces, we are also actively involved in industry discussions to progress a range of technical and policy solutions to EV grid integration, including tariff design, data availability and technical standards. We would encourage the Victorian Government to

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<sup>6</sup> See further Senate Select Committee on Electric Vehicle, Report (30 January 2019), Available at [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Electric\\_Vehicles/ElectricVehicles/Report](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Electric_Vehicles/ElectricVehicles/Report). AGL made a submission to the Inquiry, a copy of which is available at [https://thehub.agl.com.au/-/media/thehub/documents-and-submissions/2018/agl-submission\\_-commonwealth-inquiry-into-electric-vehicles\\_final\\_27-july-2018.pdf?la=en&hash=11D9929521DB27D43CFF3D803E826DC0](https://thehub.agl.com.au/-/media/thehub/documents-and-submissions/2018/agl-submission_-commonwealth-inquiry-into-electric-vehicles_final_27-july-2018.pdf?la=en&hash=11D9929521DB27D43CFF3D803E826DC0).

<sup>7</sup> For example, the Norwegian Parliament set a target that all new cars sold by 2025 be zero emissions vehicles (battery electric or hydrogen), see further <https://elbil.no/english/norwegian-ev-policy/>. The UK Government's Road to Zero Strategy (2018 includes the ambition to see at least half of new cars to be ultra low emission by 2030, Available at <https://www.gov.uk/government/news/government-launches-road-to-zero-strategy-to-lead-the-world-in-zero-emission-vehicle-technology>.

provide resourcing support to the DEIP, which we believe has the potential to develop a range of useful solutions to support the Victorian Government's own strategy.

4. *Improve consumer confidence in the emerging market for EV products, systems and services* - by ensuring a harmonised national customer protections framework that is fit-for-purpose and through which customers receive the same rights and protections irrespective of how they choose to receive their energy supply and services.

#### *Victorian Government priorities*

As the Victorian Government is substantially responsible for transport infrastructure, the IV Strategy should focus on coordinating the planning and deployment of EV charging infrastructure.

The Strategy should also lean into and ensure infrastructure planning and deployment is consistent with the Victoria's Government's policy intent to develop the Zero Emissions Vehicle Roadmap. The Roadmap should:

- Clarify Victoria's overarching policy objectives for EV uptake and grid-integration, including identifying policy topics that will be progressed at the national level; and
- Identify existing and new Victorian Government programs that could be developed to achieve those objectives.

AGL also supports coordinated cross-government leadership to advance the following key actions by the Commonwealth Government:

- Implementing the introduction of a light vehicle emission standards and/ or fuel efficiency standard to drive EV uptake.
- Improving the current Australian fuel consumption labelling system to raise consumer awareness of the benefits of EVs.
- Considering other policy levers to phase out internal combustion engine vehicles to support accelerated transition towards EVs.

#### *IV's recommendations*

AGL supports IV's recommendation 1 to accelerate the uptake of EVs through a range of policy measures, including the transition of public transport and government fleets, incentives for zero emissions freight vehicles and resourcing to develop design standards and payment principles for charging infrastructure.

We believe IV's recommendation to require that all new public transport buses and coaches, and government vehicle fleets, transition to appropriate zero emissions vehicles where available within next five years will substantially stimulate EV uptake in Victoria. While we consider the five-year timeframe to be appropriate, we would also recommend that the government set quantitative EV targets in the intervening five years to further stimulate replacement.

As well as socialising consumer appetite towards EVs, a government fleet program would create a second-hand market for depreciated EVs enabling an additional and more affordable avenue for private ownership. We would also recommend the development of programs to support private fleet owners' procurement of



EVs, in a manner akin to the NSW Government's proposed Electric Vehicle Infrastructure and Model Availability Program.<sup>8</sup>

In implementing an electrification tender program for Victoria's public transport buses and coaches, the Victorian Government could consider an integrated the procurement of electricity, charging infrastructure and buses program. As well as reducing the CO<sub>2</sub> emissions profile of Victoria's transport sector, this approach would provide long term benefits by reducing dependency on fossil fuel imports, lowering noise and NO<sub>x</sub> emissions.

While recognising the merit in IV's targeting of freight vehicles for support to move towards zero emissions, AGL recommends a more holistic approach be taken in recognition of the barriers to uptake and successful initiatives implemented in other jurisdictions. Possible measures include:

- Direct financial incentives that address the large cost-gap in the near-term.
- Support for charging infrastructure and pick-up and drop-off locations.
- Dedicated charging hubs for freight vehicles to ensure reliable access.
- Low emission zones in which high-emitting vehicles are subject to access fees.
- Explicit/priority parking areas for zero emission vehicles ("green loading zones").

A similar approach should also be considered for the people-mover equivalent segment, that is taxis and rideshare vehicles.

We support the recommendation to develop design standards and payment principles for charging infrastructure. Standards and payment should be pursued through or based on a nationally harmonised approach to deliver consistent consumer outcomes, experiences, and protections. This will avoid developing the 21<sup>st</sup> century 'railway gauge' where EV vehicles travelling between States or different distribution zones will be subject to different standards and payment systems and therefore causing confusing and higher than necessary costs to run and operate EVs.

We elaborate our views on the importance of technical standards for EV uptake and grid-integration in our recent submission to the AEMC's EV Review.<sup>9</sup> We would recommend that IV promote the establishment of standards and payment principles through participation in cross-government initiatives, including the established energy market regulatory reform process.

We support the development of policies to phase out internal combustion engine vehicles during the next 30 years and believe these should be pursued through harmonised approach to ensure consistent consumer outcomes across the Australian economy. As noted in the IV Strategy, there are a broad range of policy levers available to the Commonwealth Government to accelerate zero emissions vehicle purchases, including importation rules and vehicle emissions standards. Fuel fees may also present a useful lever. In a presentation to Australia's Electric Vehicle Council in November 2020, Vice Chair of the UK Climate Change Committee Professor Julia King noted that fuel price was a key driver of changes in consumers' purchasing

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<sup>8</sup> See NSW Government Department of Planning, Industry and Environment, *Net Zero Plan Stage 1: 2020-2030*, Available at <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Climate-change/net-zero-plan-2020-2030-200057.pdf?la=en&hash=D65AA226F83B8113382956470EF649A31C74AAA7>.

<sup>9</sup> AGL submission to the AEMC Retail Competition Review, Electric Vehicles Issues Paper, Available at available at <https://thehub.agl.com.au/articles/2020/04/submission-to-aemc-retail-competition-review-electric-vehicles-paper>.





behaviour in the UK with the introduction of ‘elevator’ fuel fees able to stimulate transition away from fossil fuel vehicles.<sup>10</sup>

Victoria should also develop complementary measures to incentivise EV uptake in accordance with Victoria’s legislated net zero emissions target. Measure could include:

- Setting EV targets for Victoria.
- Removing upfront state charges not directly linked with services.
- Gradually increasing the cost of internal combustion engine vehicles through scaling registration and other charges.

We would also recommend Victoria’s approach to transport pricing support the transition towards EVs and elaborate further on this element below.

## **Electricity transmission network investment and renewables**

### *Transmission infrastructure augmentation*

AGL supports IV’s recommendation 2 to support transmission infrastructure augmentation to accommodate new renewable generation and improve network resilience. We note that the objectives under this recommendation stem from AEMO’s ISP, and we encourage IV to continue to be guided by the ISP as it is a whole of system plan and it is crucial that transmission augmentation be considered with regard to potential impact on all regions of the NEM. All ISP projects must be subject to a rigorous RIT-T process, including stringent requirements on TNSPS to provide accurate inputs, to ensure that any transmission investment will be of value to consumers.

### *Renewable Energy Zones*

We support IV’s recommendation 3 regarding the development of REZs to meet climate targets and to facilitate well-located renewable energy development. We note that the Energy Security Board (**ESB**) is proposing a national REZ framework which the States may or may not decide to adopt, as they consider their own REZ and renewable frameworks. We are concerned that this may lead to a disconnect between NEM regions and may create potentially contradicting requirements between the states, which may create inefficiencies and increase costs for market participants which will ultimately flow to consumers. We therefore suggest IV support a coordinated approach to REZ development with a mechanism which is consistent across all NEM regions.

AGL notes that consideration on whether Locational Marginal Pricing (LMP) and Financial Transmission Rights (**FTRs**) in the NEM are required and will be cost effective remains an open question<sup>11</sup>. The absence of adequate mechanisms to ensure new investment is well located has led to the inefficient location of a much investment in new generation capacity in the NEM in the last decade. However, we note that an increased understanding regarding the congestion risk of poorly located investment, including improved access to system information due to the transparency of new projects rule change, combined with the ISP

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<sup>10</sup> Baroness Browne of Cambridge and Vice Chair UK Climate Change Committee, ‘ZEVs: Accelerating transport decarbonisation’ (17 November 2020) Presentation to the Electric Vehicle Council.

<sup>11</sup> Refer Energy Security Board’s Post 2025 Market Design Consultation, Available at <http://www.coagenergycouncil.gov.au/publications/post-2025-market-design-directions-paper-january-2021>; Refer AEMC Coordination of generation and transmission investment implementation – access and charging, Available at <https://www.aemc.gov.au/market-reviews-advice/coordination-generation-and-transmission-investment-implementation-access-and->



and REZs are likely to significantly improve location of transmission investment. We therefore recommend that any IV recommendations regarding transmission infrastructure in the NEM not include support for LMP and FTR implementation.

### **Electricity distribution network reform**

While IV has identified a range of transmission investment reform, we consider the IV Strategy would also benefit from recommendations that focus on electricity distribution network reform to support the integration and orchestration of DER, given the important role DER will play in the Australian energy market system over the next 30-year horizon.<sup>12</sup>

As customers continue to embrace innovative DER product and service offerings such as solar battery orchestration and EVs, the economic, technical and regulatory challenges associated with the integration of DER into Australia's energy market system has become a focus in a broad range of policy and regulatory forums, including through the ESB, DEIP and each of the energy market bodies.

While IV should not seek to duplicate these existing reform programs, we consider the IV Strategy could play a key role in informing the Victorian Government's policies on DER integration, thereby positioning Victoria to spearhead reform in this important area, through appropriate market trials and cross-government initiatives.

The key area for reform is the development of competitive-based arrangements where consumers as owners of DER assets cannot only improve the affordability of their energy use through lowering their energy reliance on centrally supplied energy but are also rewarded for offering up their DER assets for wider network and wholesale market-based services. We consider such an approach will deliver the greatest benefit, as DER uptake continues to grow.

We have observed a range of recent regulatory proposals that seek to accelerate the implementation of technical standards and communications protocols for DER, including AEMO's Renewable Integration Study and the SA Government's Smarter Homes Consultation. These responses disempower the owner of the asset to actively participate and support the wider electricity system reliability. Rather, market participant and the operator take control of the customer asset. This outcome increases the payback period of the DER asset investment for the owner and disincentivises the uptake of these assets and services by consumers.

AGL recommends that IV promote a competitive-based mechanism that incentivises and empowers consumers (residential, small, and large businesses).

In support of increased consumer participation and uptake of DER, the following complementary reforms are also important to better facilitate DER integration:

- Connection, access, and pricing arrangements that better incentivise networks to support DER uptake, and enable greater certainty of access and services for DER owners.

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<sup>12</sup> See further Elizabeth Molyneux, 'How do we best integrate household batteries and solar into our energy market system?' (23 December 2020), Available at <https://thehub.agl.com.au/articles/2020/12/benefitting-from-sustainable-and-affordable-energy>; 'Integrating distributed energy resources into our energy market system' (30 December 2020), Available at <https://thehub.agl.com.au/articles/2020/12/integrating-distributed-energy-resources-into-our-energy-market-system>; 'Providing consumers the best outcomes from integrating distributed energy resources' (6 January 2021), Available at <https://thehub.agl.com.au/articles/2021/01/providing-consumers-the-best-outcomes-from-integrating-distributed-energy-resources>.

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- The network expenditure assessment framework appropriately accounting for networks facilitating the interaction of DER with the broader energy market system.
  - Establishment of technical standards that better balance safety, open access and interoperability and consumer value/access to broader energy network and wholesale market value streams.
  - A regulatory framework that promotes the contestable market for non-network solutions (the current framework incentivises distribution owners to seek capital build solutions over non-network solutions as the capital is included in their regulated asset base which boosts their return on capital) and ensures that ring-fencing arrangements are robust enough to avoid causing customer detriment.

### **Energy efficiency**

AGL supports IV's recommendations 4-6 to improve energy efficiency outcomes in Victoria, including gradually increasing the Nationwide House Energy Rating Scheme (**NatHERS**) rating requirement for all new homes, developing an energy efficiency disclosure scheme for the sale or rental of homes within the next five years and mandating stronger minimum energy efficiency standards in both owned and leased Victorian Government buildings.

We would also recommend the following additional policy initiatives be considered:

- Energy efficiency incentives to support upgrading existing housing stock. The Government could consider developing some form of rebate program akin to the Solar Victoria rebate programs or financial program akin to NSW Government's Empowering Homes Program<sup>13</sup> to provides interest free loans to homeowners. Any such program should consider how best to leverage private sector expertise and investment in the program design parameters.
- Policies to leverage private sector green finance offerings to support finance provision for energy efficiency. Any government green finance program should seek to deliver a seamless customer experience through partnerships with appropriate delivery partners.
- Policies to incentivise customer participation in behavioural demand response, including:
  - Leveraging the 2-sided market and distribution network reforms that are currently in development by the ESB.
  - Supporting technological and service development in energy efficiency. By way of example, through AGL's Peak Energy Rewards Program, we orchestrate air conditioning on behalf of some 50,000 customers in response to demand response events.<sup>14</sup> We recently commenced a trial with 1000 Program customers, provisioning Sensibo devices to enable customers to participate in events more easily. We have observed a material increase in these customers' participation rate. Government could consider incentivising further technology roll out to support increased demand response volumes.

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<sup>13</sup> See further NSW Government, Empowering Homes solar battery loan offer, available at <https://energysaver.nsw.gov.au/households/solar-and-battery-power/empowering-homes-solar-battery-loan-offer>.

<sup>14</sup> See further, 'AGL's demand response making energy more affordable this summer' (24 December 2020), Available at <https://www.agl.com.au/about-agl/media-centre/asx-and-media-releases/2020/december/agls-demand-response-making-energy-more-affordable-this-summer>.

- Use the existing Victorian Upgrade Scheme to broaden objective away from a narrow focus of energy efficiency towards energy productivity, in a manner akin to the approach being pursued by South Australia and New South Wales to provide incentives for orchestration, demand response and behavioural demand response.

### **Demand management pricing**

AGL supports IV's recommendation 7 to optimise the use of existing infrastructure by encouraging demand management pricing within the next 10 year. We consider this would be best implemented by mandating time of use networks tariffs across Victoria's distribution networks.

We also encourage consideration of alternative approaches to tariff design, such as the bulk wholesale network tariff model. Under this model, distribution networks charge cost reflective network tariffs to retailers based on an aggregated load profile of the retailers' customers. This approach could better incentivise retailers to manage the risks associated with network costs thereby promoting greater innovation in the development of products and service and investment.

We do not consider demand management pricing should be implemented through demand tariffs in the form of a Kva tariff or otherwise. While we appreciate the Victorian Government's policy intent to better signal the costs of using infrastructure, particularly for customers with electric vehicles, time of use network tariffs provide greater scope for the retail market to manage risk on behalf of customers and ensure optimal outcomes.

### **Gas**

AGL notes IV's recommendation 8 permitting new developments to proceed without mandatory gas connection and review all gas policies to consider options for future mitigation or transition strategies. We would recommend IV consider further the customer implications of permitting developments with no access to gas connections and the need to continue to support customer preferences into future.

As we elaborate above on electricity distribution network reform, continued incentives for DER infrastructure investment will also provide an important counterbalance to gas infrastructure investment, supporting Victoria's transition towards net zero emissions.

In reviewing the Victorian Government's broader gas policies, we would recommend consideration of the role of biofuels, hydrogen and emissions offsets to identify a range of policy options that support the Government's ambition towards net zero emissions whilst also supporting customers' preferences into the future.

## **2. Respond to changing climate**

AGL supports IV's recommendations 9 and 10 that seek to specify climate scenarios and carbon value in infrastructure assessments and the call for a strategic review of the climate change consequences for Victoria's infrastructure needs and priorities. We consider that all institutions need to work together to support the realisation of Victoria's legislated net zero emissions target.

However, in updating advice to explicitly determine climate scenarios for assessing infrastructure resilience, we consider that physical risk scenarios may need to contemplate more extreme temperature scenarios such as 3 and 4 degrees of warming and potential infrastructure implications. Infrastructure assessment guidance could also be more explicit about how transitional risk is intended to be treated, drawing upon international guidance including the Taskforce on Climate-Related Financial Disclosure (TCFD) framework.



### **3. Embrace technological opportunities**

AGL welcomes IV's focus on the circular economy and supports its recommendation 28 and 29 to improve recycling infrastructure for priority materials, particular e-waste, and to strengthen end markets for recycling. Despite Australians being amongst the highest e-waste producers per capital in the world, we note that the Australian market for e-waste recycling remain in its infancy with only about 11 per cent of current e-waste being recycled under the National Television and Computer Recycling Scheme, and most e-waste recycling in Australia being primitive (focusing on dismantling, separating, and shredding) and much of the output are sold as scrap metal, dumped in landfill, or shipped to developing countries with unsafe practices.

We note the Victorian Government has taken important steps to strengthen Victoria's collection, storage and reprocessing of e-waste with grant funding to local council and industry, ban on e-waste landfill and investment in e-waste collection sites. We would encourage further action in this area.

Beyond the technology opportunities identified in the IV Strategy, we also consider IV could seek to address the broader trend towards digitisation and its implications for infrastructure and its regulation. In the energy market system, we have experienced a range of instances, for example in the provision of e-billing, where state-based regulations are no longer fit-for purpose in supporting a seamless digital experience for consumers.

### **4. Manage urban change**

#### **Transport pricing**

AGL recommends that IV's recommendations on transport pricing (48 and 59) be revised to ensure an appropriately sequenced and nationally harmonised policy approach to developing Australia's nascent EV market. This approach should:

- Immediately incentivise EV uptake by removing upfront state charges not directly linked with services (such as stamp duty, registration and license fees and compulsory Transport Accident Commission charges).
- Develop a nationally harmonised distance-based road user pricing framework that can be applied equally to internal combustion engine (ICE) vehicles and EVs. Initially, this framework should be applied to ICE vehicles only to test the parameters of the framework whilst supporting the continued development of Australia's EV market.
- In the medium term (5-10 years and as EVs reach price parity with ICE vehicles), transition EVs into the road user pricing framework. At this point in time, consideration should also be given to developing more sophisticated cost reflective charges (considering inputs such as costs of building and maintaining roads, congestion, carbon emissions, air and noise pollution and road trauma) as well as variation of charges by time, location and vehicle type.

We do not consider appointing a Victorian independent body to advise on and monitor transport prices is an immediate priority, given the need to develop a nationally harmonised framework for distance-based road user pricing. As the national framework is developed we consider a preferable approach would be to establish regulatory oversight through a relevant Commonwealth or inter-governmental institution, such as the Australian Competition and Consumer Commission or National Transport Commission.



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### **Build back better after emergencies**

AGL supports the policy intent underpinning IV's recommendation 59 to facilitate more resilient infrastructure build-back following emergency scenarios including Victoria's recent bushfires. However, we consider that any infrastructure build should continue to be guided by an overarching efficiency assessment, that weighs the costs of infrastructure being delivered by the competitive market versus regulated monopoly businesses.

The Electricity Distribution Ring-fencing Guideline provides a fundamental safeguard to ensure a level playing field so that new participants and business models can fairly compete in delivering cost effective energy solutions. Against the backdrop of technology advancements that can provide multiple services both in contestable markets and to support the ongoing security and operation of local distribution networks, we believe a market-based approach is best placed to support efficient outcomes, including energy storage solutions, for the benefit of all consumers.

In the context of the deployment of stand-alone power systems, we recognise that in some circumstances a regulated approach may prove more efficient than competitively procuring services. We consider that the regulatory framework should provide some flexibility to support timely deployment in these circumstances with appropriate safeguards to protect the emerging DER markets, including additional safeguards in terms of absence of alternative and only permitted to a particular cap of a distribution networks revenue cap. We elaborate our views in our recent submission to the Australian Energy Regulator.<sup>15</sup>

### **Incorporate lessons of emergency reviews**

AGL supports IV's recommendation 61 to incorporate and act on emergency management and infrastructure resilience recommendations from current bushfire and pandemic inquiries and other reviews underway. We would also recommend consideration be given to cyber security risks, including the Commonwealth Department of Home Affairs active consultation on reforms to critical infrastructure and systems of national significance as part of the National Cyber Security Strategy.

## **5. Develop regional Victoria**

### **Upgrade power supply for agriculture and regional manufacturing**

AGL supports IV's recommendation 81 to contribute toward strategic power supply infrastructure upgrades for agriculture and regional manufacturing, where an independent assessment demonstrates significant potential for increased productivity, competitiveness, and growth. We appreciate the potential benefits these contributions would provide to the competitiveness of these industries. In developing appropriate program design parameters, we would also encourage consideration of opportunities for emerging technologies to support more cost-effective outcomes, including microgrids and supplementary DER investments provisioned through the competitive market.

### **Social licence considerations**

AGL is broadly supportive of IV's series of recommendations (89-95) that seek to improve regional Victorians' health, safety, and inclusion.

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<sup>15</sup> See further AGL Submission, Updating the Ring-fencing Guidelines for Stand-Alone power Systems and Energy Storage Devices, Issues Paper November 2020 (21 December 2021), Available at [https://thehub.agl.com.au/-/media/thehub/documents-and-submissions/2020/agl-submission\\_updating-the-ring-fencing-guidelines\\_issues-paper\\_final.pdf?la=en&hash=1F6E9AB9BE2114224C874262B434377E](https://thehub.agl.com.au/-/media/thehub/documents-and-submissions/2020/agl-submission_updating-the-ring-fencing-guidelines_issues-paper_final.pdf?la=en&hash=1F6E9AB9BE2114224C874262B434377E).