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EnergyAustralia
LIGHT THE WAY

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Electricity and Energy Sector Plan — Discussion paper — 14 March 2024

EnergyAustralia is one of Australia's largest energy companies with around 2.4 million electricity and gas accounts across eastern Australia. We also own, operate and contract a diversified energy generation portfolio across Australia, including coal, gas, battery storage, demand response, wind and solar assets, with control of over 5,000MW of generation capacity.

We appreciate the opportunity to comment on the Department's development of a whole of sector plan to decarbonise electricity and energy in Australia.

EnergyAustralia is committed to achieving Net Zero greenhouse gas emissions across Scopes 1 and 2 by 2050, and it is our ambition for this commitment to extend to Scope 3. Our commitment is underpinned by our announcement to close the Yallourn power station and brown coal mine. This enables us to reduce our Scope 1 absolute emissions by over 60% on 2019–20 levels in 2028–29. We are positioning our Mount Piper power station to enable it to transition to a reserve role which we anticipate being in the early to mid 2030s, subject to appropriate market and policy settings to support this approach. This would see its emissions reduced prior to its retirement by 2040. Its closure by 2040 completes our exit from all coal assets. Working with partners, we aim to expand our renewable portfolio to include up to 3 GW of renewable energy, with a focus on large-scale wind generation. Our ambition is for it to be committed or operational by 2030. The full details of our ambitions are set out in our inaugural Climate Transition Action Plan[1], which will be updated later this year to include new Scope 3 emissions targets and timelines.

The Government's sectoral decarbonisation plans are being developed during a time of high energy prices, broader cost of living pressures, challenges in gaining social licence and supply chain barriers in delivering the energy transition. At the same time, there is an urgent need to reduce carbon emissions and address the associated risks of catastrophic damage that are tied to climate change. The energy sector is subject to unprecedented levels of politicisation and government intervention. All governments are

[1] 79048_Energy-Australia_Climate-Transition-Action-Plan_2023_V14_DIGITAL-RGB.pdf (energyaustralia.com.au)

committed to long-term energy and climate targets, however these will not be achieved by the existing suite of policies. When and how these policy gaps will be filled is uncertain. Once implemented, policies can also change without notice or in response to external events. This makes it hard for all actors, including customers, to make necessary long-term commitments at scale that will enable economy-wide decarbonisation.

Against this backdrop, the Electricity and Energy Sectoral Plan (EESP) can deliver value by setting out clear policy statements and principles to help guide reforms already under consideration, and help new policies to emerge where gaps exist. Although the EESP will formally be a Commonwealth plan, it should be developed in close collaboration with jurisdictional governments as their cooperation will be critical in delivering policy stability.

We recommend the EESP reflect the following commitments, which broadly align with the five key priority areas listed in the Department's discussion paper:

- To help provide investment certainty (including for customers investing in their own assets and appliances) governments at all levels need to commit to a least cost decarbonisation pathway for the electricity sector. This pathway involves **heavy reliance on cheap variable renewable generation, supported by firming technologies** as consistently outlined in AEMO's Integrated System Plan (ISP) and similar flagship modelling studies. The EESP needs to acknowledge the **current policy gap in support for firming technologies** that can provide sufficient duration to underpin reliability, **principally pumped hydro storage and peaking generation** that is run sparingly on gas or liquid fuels (which in the future can involve biomethane and hydrogen).

- Again with the aim of providing investment certainty, governments need to **commit to large scale electrification as the least cost means to decarbonise adjacent sectors**, principally domestic gas heating, transport and most industrial applications. The challenges and opportunities in managing higher and more variable electricity demand need to be recognised and addressed, rather than used as a justification for pursuing alternative pathways. **The upscaling of hydrogen or biogas for mass market customers needs to be definitively ruled out** in order to avoid 'lock in' of carbon and costs of asset stranding.

- At the same time, **governments should explicitly recognise the need for low carbon fuels in specific industrial applications,** with coordinated efforts to bring these to market at reasonable cost over the medium to long term. This will require iteration between the EESP and other sectoral plans.

- The scale of these changes is significant and will require billions of dollars in new investment. This will take place in a high cost environment, at least for the near term. While overall affordability is a key issue, the **distributive effects of the transition need to be identified early and managed through appropriate market and policy settings**. Regulatory arrangements already provide **support for vulnerable customers** and governments may wish to provide further relief, however this needs to be done in a targeted manner. Consumer protections should provide enough space for retailers and other intermediaries to compete

and seek out innovative ways to manage cost and risk along the supply chain, and offer more flexible solutions that cater for the needs of individual customers.

- The pathways to deliver the transition at least cost and means to ensure equitable outcomes for all stakeholders need to be reinforced, communicated and embedded in policy design in order to **address concerns about affordability and social licence**. Calls to moderate the pace of the transition or seek materially different technology pathways could actually be to the detriment of the community.

In addition to setting out these core policy statements, we also recommend governments use the EESP to deliver the following practical outcomes:

- provide clarity on the mechanisms that will drive necessary decarbonisation in the NEM over the medium to long term, such that stakeholders in the upcoming 'post 2030' market redesign consultation know whether future market settings need to drive emissions reduction, in addition to solving for reliability and system security.

- set out a clear governance framework between government departments, the Climate Change Authority (CCA) and other agencies, whereby the EESP and other sectoral plans can be refined and iterated in line with sectoral linkages and evolving views on economy-wide decarbonisation pathways.

- related to the above two points, the EESP should quantify how much 'heavy lifting' energy and electricity have to do relative to other sectors, as well as identify critical interdependencies, several of which have already been explored in the ISP and related modelling exercises.

- the EESP should reinforce government commitment to implement the Renewable Electricity Guarantee of Origin (REGO) scheme from 2025, given the importance of growing voluntary demand for certified renewable generation. We reiterate the need for REGO certificates to reflect emissionality at the time of creation, allowing the true marginal decarbonisation value to be priced efficiently, and potential certificate fungibility across other green schemes including for renewable gas.

The attached contains our detailed commentary in response to several questions posed in the Department's issues paper.

If you would like to discuss this submission, please contact me on 03 9060 0612 or Lawrence.irlam@energyaustralia.com.au.

Regards

Lawrence Irlam
Regulatory Affairs Lead

What actions are needed to attract the required large scale private capital and household investment in the energy transformation, with or without government intervention?

The issues paper recognises the significant scale of investment required as part of the energy transition, and that a stable policy environment will enable this.

The stability of energy and climate policy in Australia has been largely a function of the institutional framework surrounding the independent market bodies and jurisdictional governments. We recommend the EESP consider these arrangements, including as they affect upcoming major reforms.

We accept that energy markets have become increasingly politicised and subject to intervention as governments feel the need to take accountability for outcomes. In our view this has detracted from the proper functioning of the AER, AEMC and AEMO as independent energy market bodies. The roles of these bodies and supporting arrangements, as first set out in the AEMA[2] back in 2004, were designed to ensure administration of energy markets at arm's length from governments of the day. Their establishment was also intended to provide for a nationally consistent approach to market operation and development. Policy-makers at the time recognised that independence and national consistency are fundamental in providing stability and certainty for investors, which in turn helps deliver the best outcomes for customers. In recent years we have seen the proliferation of significant federal and jurisdictional interventions in virtually all aspects of the energy supply chain. Monitoring and reporting functions have also been given to the ACCC, Productivity Commission, state utility regulators as well as ad hoc expert reviewers, which all feed public debate and elicit further action from governments. The need to navigate multiple market and regulatory requirements across jurisdictions, and also anticipate policy change in line with public sentiment and changes of government, adds significant cost and unnecessary risk for private investors.

We have seen encouraging signs more recently in federal-jurisdictional relations on energy policy and we hope this continues. There has always been a role for ministers to set overarching policy direction to the independent market bodies, however the workability of this has been subject to how governments deal with issues of the day. The abolishment of the Energy Security Board (ESB) in 2022 reflected in part the inability of jurisdictions to agree on how to progress with key reforms in the absence of a clear and nationally coherent climate policy. The announcement of the Capacity Investment Scheme (CIS), funded by the Commonwealth Government, reflects a break from this impasse. However it is only temporary and carries the risk of significant distortions to the NEM (and the WEM, which already has a functioning capacity market).

Ministers will soon issue a terms of reference for 'post 2030' market reforms. This process seems likely to face the same challenges as the ESB unless governments can agree on the explicit policy or market settings that will drive decarbonisation. The recent amendments to the national energy law objectives, to account for target statements and an explicit value of emissions reduction, could form a basis for direction by jurisdictional governments. It seems that the 'post 2030' terms of reference is being drafted by the Commonwealth Government, which will also lead the subsequent reform process. This

[2] Agreement between and (archive.org.au)

process is therefore at risk of further politicisation, notably around technology eligibility where views are likely to differ across jurisdictions. If the post 2030 reform program is to be developed and implemented by governments rather than by independent expert agencies, it at least needs to be grounded in bipartisan policy support.

To the extent this ideal cannot be reached, the EESP needs to recognise and correct for technology bias in current policy settings affecting the electricity sector.

The Renewable Energy Target has been successful in bringing in clean and low cost renewable generation. An additional 23GW of renewables will be targeted for commissioning by 2030 under the expansion of the CIS. The CIS evolved out of the ESB's consultation on resource adequacy mechanisms, which were intended to achieve reliability objectives primarily via dispatchable technologies. On this front, the CIS is expected to deliver 9GW of mostly short duration battery storage. Around half of the targeted generation and storage capacity under the CIS will be subject to agreements with jurisdictional governments. At present it is therefore unclear whether the timing, location and technology mix of plant funded under the CIS relates to system needs, which private investors typically plan around. Peaking gas generation is explicitly excluded from the CIS because of concerns about adding to NEM emissions. This is in spite of the ISP identifying peaking gas generation as necessary to underpin the NEM's transition, and doing so while still staying within 2050 carbon budgets. Least cost pathways in the ISP also see a role for long duration storage however attempts to incentivise private investment in pumped hydro have proven problematic. Proposed mega projects including Snowy 2.0 will be brought to market via direct public ownership and absorption of development risk by taxpayers. The CIS requirements for projects to be commissioned by 2030, and the challenges in fairly valuing storage technologies with markedly different characteristics, will skew investment towards battery storage. Policy makers now face concerns about reliability gaps arising due to the accelerated exit of coal generation, being pushed out of the market by the influx of cheaper renewables (predominantly solar, including rooftop PV) but only during daytime hours. Social licence barriers to commissioning sufficient bulk energy at other times, and delays in transmission infrastructure to deliver supply diversity, have seen some jurisdictions opt to extend the lives of exiting coal plant through bilateral agreements.

The EESP needs to highlight the risk of worse outcomes in terms of cost, reliability and emissions if this patchwork of supply-side incentives is left to persist. This may or may not be resolved in post 2030 design work, noting that all these subsidy arrangements exist 'out of market' and so their continuation or abolishment will depend on the willingness of governments of the day.

The EESP itself also requires consideration of governance and policy coordination. As mentioned in our covering letter, there should be a clear process whereby other sectoral plans are considered holistically, including in light of CCA modelling and advice.

A final comment regarding investment certainty is that some recent government interventions have been in response to external price shocks. We support all measures aimed at addressing affordability and these need to be targeted at vulnerable customers. The EESP should consider means to insulate energy markets from external shocks and the preparedness of governments to take appropriate countermeasures when necessary. As we saw in the wake of winter 2022 market suspension, measures imposed during the heat of the moment tend to be poorly targeted and hence ineffective, including because multiple agencies with a limited background in market dynamics are involved.

What actions are required to ensure Australia's energy systems can enable increased electrification, while maintaining equity, reliability and security?

The EESP needs to commit governments to and set concrete policies that progress a decarbonisation pathway that is heavily reliant on electrification. Integrated modelling assessments consistently show that electrification of domestic, industrial and transport sectors will be the least cost and feasible means to reach emission reduction targets.[3]

A material proportion of new electricity demand will come from customers switching from gas in domestic and most commercial applications. Deferring commitments to electrify therefore creates the risk of 'locking in' gas assets and associated emissions at the time of renewing appliances and transport infrastructure. This compounds the impact of asset stranding and eventually adds to 'death spiral' price pressures.

At present this seems to be largely the realm of jurisdictional governments who are taking different approaches to degasification, given gas usage is different across each state and territory. Mixed messages from policymakers may also arise from reforms that appear designed to enable large scale reticulation of renewable gases.[4] A lack of clear policy direction has created challenges for the AER and regulated gas networks in dealing with asset renewal in the face of declining demand and associated cost recovery.[5]

We see a role for the Commonwealth Government to lead in this space, and expect EESP and its Future Gas Strategy to closely align. We therefore refer the Department to our detailed comments on electrification and the declining role of gas in our submission on the Future Gas Strategy.[6] In summary:

- The pace of electrification needs to dramatically accelerate however the replacement of gas appliances for domestic customers will still take time. Gas will still be needed for some industrial uses where there are limited fuel substitutes.

- There should be an assessment of the existing level of market and government incentives that promote electrification, and identify how these can be augmented to ensure the rate of gas switching is realigned towards a net zero trajectory. This should reflect existing and credible analysis[7] already done at the household level, looking at payoffs and upfront cashflow barriers for households, and the timing of likely appliance purchasing decisions.

- Market participants and customers need to work towards a realistic and credible timeframe for gas switching as part of promoting an orderly transition. Providing some degree of certainty on this timing will help identify the volumes and temporal shape of gas demand and assist in de-risking new supply.

- Some amount of gas-fired generation will also be necessary to support the significant upscaling of wind and solar generation, to facilitate the exit of large coal generators, and to complement long duration storage which is subject to its own challenges at present.

[3] See for example Credible pathways to 1.5°C – Analysis - IEA; netzeroaustralia.net.au/wp-content/uploads/2023/04/Net-Zero-Australia-Modelling-Summary-Report.pdf

[4] Extending the national gas regulatory framework to hydrogen and renewable gases | energy.gov.au

[5] AER tackles gas pipeline regulation in an uncertain future | Australian Energy Regulator (AER)

[6] Commonwealth Future Gas Strategy - consultation paper_13 November 2023 (1).pdf (energyaustralia.com.au)

[7] Getting off gas: why, how, and who should pay? (grattan.edu.au)

- The growing intermittency of gas usage within an overall declining trend creates challenges for investors in new sources of upstream supply, adding to risk of gas shortages. Customers and regulators will also face challenges as any cost of long-lived infrastructure needs to be recovered in a fair and sustainable way.

- The effects of gas substitution at the network and wholesale level should also be assessed to determine bill impacts from a whole-of-energy perspective, which will have feedbacks into switching incentives and hence rates of uptake.

- lowering overall energy demand will be critical in prioritising scarce gas fuel for industrial users and in power generation. Hence coordinated policies across energy efficiency, electrification, transport and emissions need to be developed.

What policy settings and certainty are required to support a fair, equitable and orderly transition for the decarbonisation of both natural gas and liquid fuels?

Again this is an area where the EESP should draw heavily from positions arising in the Government's Future Gas Strategy and we refer the Department to our submission on that. Our views in summary:

- EnergyAustralia is supportive of hydrogen and renewable gas as an alternative to carbon intensive 'natural gas' in situations where electrification is uneconomic or infeasible.

- For industrial users with continuing reliance on gas, it is important to ensure that scarce fuel resources are prioritised for their needs, while other sectors of the community with potential to electrify are engaged more proactively in ways outlined above.

- Noting the current high cost of living pressures, and the prospects of ongoing tight demand-supply balance for gas, we support emission reduction use-cases via renewable gas blending provided that infrastructure and commodity costs are not raised without the explicit involvement and consent of end users.

- There is a role for the Commonwealth to try seek alignment across jurisdictional interventions in order to determine the total volumes of renewable gas that might be required in the medium to long term. Policies that target both the demand and supply side can then be meaningfully discussed and coordinated nationally such that gases are produced by, and consumed in, technical processes which minimise the total cost of carbon abatement.

On this final point we note the proliferation of certificate-based schemes designed to encourage the uptake of renewable gas and other fuels. The NSW Government has legislated a Renewable Fuel Scheme which would require retailers, on behalf of customers, to purchase certificates that equate to 8,000,000 GJ of renewable hydrogen by 2030.[8] It is proposed that certificate data allow integration with Product GO, and the scheme appears likely to be expanded to cover biofuels and others in addition to green hydrogen. The Victorian Government also recently published a consultation paper outlining a potentially similar scheme.[9] The concurrent development of the Federal

[8] Renewable Fuel Scheme | NSW Climate and Energy Action

[9] https://engage.vic.gov.au/victorias-renewable-gas-consultation-paper

Guarantee of Origin scheme raises important questions regarding how these schemes will integrate. There should be consistency in how targets are set and eligible activities defined, particularly in setting emissions boundaries in supply chains and also for activities located in different jurisdictions. The EESP should consider these factors and other details, particularly the need for REGOs to reflect emissionality at the time of creation, allowing the true marginal decarbonisation value to be priced efficiently. At a broader level we also seek a commitment that the related REGO scheme will be implemented from January 2025, given stakeholders have seen minimal progress on this since consultation late last year.

What actions are required to ensure better energy outcomes for people and businesses, and maximise their benefit from the energy transformation?

The issues paper appropriately summarises key factors in delivering the transition in terms of affordability and equitable outcomes across different stakeholders. It states that affordability will be "enhanced" by the deployment of renewable energy. As noted in our covering letter we see a role for the EESP to communicate a strong policy commitment to transitional pathways involving high penetration of variable renewable generation technologies, as this will be least cost to consumers. This does not necessarily mean prices will decline in absolute terms. Managing these expectations will be vital in gaining stakeholder trust in energy markets, institutions and the broader transition.

Governments and central agencies administering the transition need to provide some guidance on the potential bill impacts associated with key policies. This includes technology choices stemming from various investment incentives.

We recognise that reporting of bill impacts is politically sensitive and highly dependent on assumptions and forecasting uncertainty. Several key modelling reports provide some relevant information that can help explore customer impacts, which could feed into broader public discussion and help gain broader social licence for the transition. This includes AEMO's ISP, which presents ranges of wholesale price outcomes[10], and the NSW Infrastructure Investment Objectives report[11] which presents total wholesale costs over time. The AEMC intends to publish residential price trends including the impacts of potential policies and various market scenarios over a 10-year period.[12]

The Department should explore what useful information could be published to guide public debate around the scope and pace of the transition. As per our feedback on AEMO's draft 2024 ISP[13], customers and the general public do not meaningfully engage with the presentation of net market benefits and other macro-level valuations. Presenting the costs of alternative scenarios where we fail to meet climate and energy targets is also likely to be compelling as this would involve considerable environmental and social impacts. The cost of externalities may still be esoteric to many customers however the private bill impacts are likely to be significant to the extent alternative pathways rely on the renewal of coal-fired generation, undergrounding of transmission or other less favourable technology solutions.

[10] a6-cost-benefit-analysis.pdf (aemo.com.au) – see section A6.9.

[11] 2023-iio-report-december_final.pdf (aemoservices.com.au) – see section 3.7.1.

[12] Update on residential electricity prices report | AEMC

[13] https://www.energyaustralia.com.au/sites/default/files/2024-03/EnergyAustralia_Draft%202024%20Integrated%20System%20Plan_16%20February%202024.pdf

The message that renewables are the cheapest form of energy should be presented in a careful and nuanced manner. Frequently we see commentary of spot price outcomes and relating this to the extent of renewables penetration.[14] Although correct, the general public sees this commentary in the policy debate around technology choices, leading to an expectation of end user bill impacts. When bills are not reduced, it erodes trust. Discussion of the costs of the transition needs to acknowledge that although renewables are cheap, they need to be complemented with additional firming technologies and enabling transmission capacity. This is still the least cost pathway and should not be dismissed or downplayed in affirming the need for a high renewables energy system. Except for 'pass through' type retail products, spot prices do not represent the cost of wholesale energy that is reflected in customer bills. Our expectation is that a renewables-dominated grid will involve significant periods of very low or even negative spot prices, punctuated by other, potentially extreme, price outcomes where storage or other dispatchable technologies are the marginal price-setting plant. This increased exposure to volatile or extreme pricing is likely to see increasing demand for hedge contracts by retailers and other market participants. At the same time, supply of contracts seems likely to decline as significant volumes of dispatchable coal and gas generation exit the system. The scarcity of hedge contracts could be compounded where new dispatchable plant are brought into the market via government incentives that dull incentives to forward contract. Unless addressed through proper market design, this could result in higher contract premiums that ultimately get passed onto customers. Subsidies for renewables and storage that supplement or offset spot price outcomes[15] also need to be taken into account when discussing customer bill impacts.

The future energy system will see more flexible and diverse sources of supply as well as consumption behaviours enabled by new technologies. Different customer cohorts will see different outcomes depending on their energy usage, level of engagement and capacity to adapt or enlist demand-side resources that are integrated into markets. The ability of retailers and other intermediaries to innovate and offer more flexible solutions to cater for individual customer needs will also be critical. The issues paper talks about potential complexity in product offerings and the need for alternatives where this does not deliver the best outcomes for customers. We see a role for competition to deliver simplicity where customers value it, and a range of offers are already in the market to cater for this. We caution against imposing market-wide protections that only benefit a subset of customers. There is ongoing debate about tariff reform[16] which is one means to enable technology and behavioural responses that can be used to manage load profiles, and thus minimise total costs from a system perspective.

On a geographic basis, some regions will benefit from new investment and associated economic activity, while others that have already benefitted from fossil fuel activity will need to be supported in their own transition. Several very large and visible transmission projects will increase inter-regional energy flows with different jurisdictional impacts, including less regional price separation and better reliability. This will be important to illustrate when trying to elicit support for these projects, and could also inform how concessional finance is allocated to particular projects in order to mitigate bill impacts.[17]

[14] For example Record wind and solar push down prices across grid, except for most coal dependent state | RenewEconomy

[15] This price is definitely not right | Energy Networks Australia

[16] Energy companies under fire over move to 'punishing' time-of-use tariffs - ABC News

[17] Sharing concessional finance benefits with consumers | AEMC