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AGL Response to National Battery Strategy Issues Paper

AGL Energy (**AGL**) welcomes the opportunity to comment on the National Battery Strategy Issues Paper (**Issues Paper**).

As Australia's largest electricity generator and leading energy retailer, AGL understands the pivotal role battery energy storage will play in the decarbonisation of the Australian energy system. AGL has a 185-year history of innovation and a passionate belief in progress – human and technological. We deliver 4.3 million gas, electricity, and telecommunications services to our residential, small, and large business, and wholesale customers across Australia.

Our electricity generation portfolio has an operated generation capacity of 11,208 MW, which accounts for approximately 20% of the total generation capacity within Australia's National Electricity Market (NEM). We have the largest renewables and storage portfolio of any ASX-listed company, having invested $4.8 billion over two decades in renewable and firming generation.

In September 2022, AGL released its inaugural Climate Transition Action Plan (CTAP) under the Say On Climate initiative, which states AGL's updated ambition for decarbonisation, including targeting a full exit from coal-fired generation by the end of FY35 (up to a decade earlier than previously announced), ambition to meet customer energy demand with around 12 GW new firming and renewable assets by 2036 and an initial target of 5 GW new firming and renewables by 2030.

AGL has made strong progress on our existing 3.2 GW battery development pipeline including a 250 MW Torrens Island and 50 MW Broken Hill battery to be operational mid-2023 and advancing a 500 MW battery at the site of our Liddell coal-fired power station which will retire this year.

Australia is currently facing intense global competition for decarbonisation technologies. This is being driven by a number of factors including the heightened awareness of fuel security issues stemming from Russia's invasion of the Ukraine as well as increased international climate ambition and the reality of national targets and what they translate to in the form of investment in renewable technologies. Many countries have developed strategies for securing battery (and other renewable energy) supply chains including onshore manufacture and long-term agreements for supply of raw materials. The largest of these is the US governments' Inflation Reduction Act which presents a step-change in funding and ambition for securing supply of and local manufacture of renewable energy and storage assets.

Batteries are an integral part of AGL's current portfolio and will continue to feature in our future plans as we decarbonise our generation portfolio and our customers. It is therefore pertinent for us to consider where those batteries will come from and what can be done to ensure that Australian supply chains remain secure in a future of strong global competition for decarbonisation technologies. Our

response to this issues paper is based on our experience with both household and grid-scale battery storage systems including issues we are currently facing in the industry and our views on a pathway forward.

Supply chain constraints

Like many other companies developing renewable energy projects in the current climate, we have experienced delays in the battery supply chain and agree that a strategy is needed to mitigate these issues in future. We are supportive of the government considering how to better position itself to secure and benefit from the battery supply chain in future including options for local manufacture, where appropriate, to ease some of these pressures and to increase the value derived from Australia's abundant mineral deposits. This strategy is an opportunity for us to carefully think through how we can diversify supply chains – including by onshore manufacture of key segments - to meet a number of related climate goals.

Diversification of supply chains could be achieved in numerous ways. It could include a global trade strategy where Australia enters into trade agreements with multiple countries involved in the battery supply chain. It could also involve Australia entering into manufacture of a particular segment of the battery supply chain, or it could involve an assessment of the variety of battery chemistries and types available or in development and either target trade agreements with countries involved in the supply chain of a particular technology or look at technologies Australia has an advantage in and manufacturing some or all supply chain segments of the technology onshore. For example, this might be appropriate where Australia has a particular R&D or technical capability, abundance of raw materials or a particular niche of application meaning Australia could be a significant source of demand for the technology.

Other industries closer to the battery supply chain will be better placed to provide specific guidance on the merits of onshoring the battery manufacturing chain. We provide a number of considerations for determining the value of onshoring battery production below.

Where onshore manufacture of one segment of the production process might help secure supplies of the battery end product

- For example, could onshoring of processing or production be an opportunity to negotiate trade agreements with other battery producing nations to ensure sufficient supply of batteries to meet our projected future demand.

Ways to better support our local R&D capability in battery technology to give Australia a competitive technological advantage for onshore production

- This strategy could be an opportunity for government to assess how it is supporting early-stage technology start-ups, for example in providing seed-funding, connecting up supply and demand, matching start-ups with industry partners and sources of investment funding.

Battery technology niches that might exist in Australia

- Are there areas where Australia could be a significant source of demand due to its climate, large land area, existing industries or other features? Existing examples of this include the batteries for heavy vehicles in mining and defence produced by 3ME Technologies or the climate-optimised lithium-ion batteries produced by Energy Renaissance, both here in Australia.
- In what segment of the supply chain does Australia's strengths lie – examples might include the processing of minerals, electrode manufacture or battery integration systems.

Onshore production as an alternative to known or suspected modern slavery risks in the battery supply chain

- Could onshore processing offer an ethical alternative to current best practices?
- Opportunities for Australian production to fetch a quality or ethical production premium. Would such a premium be sufficient to justify the economics of onshore production?

Pathways to a self-sustaining industry

- Is there a clear pathway to profitability where government support is phased out in future?

Other (non-manufacturing-based) avenues the government could pursue to incentivise onshore production

- Tax incentives to attract investment
- Increasing local demand for batteries by:
    - Solving grid connection issues for grid-scale projects.
    - Improving the economics of battery project business cases by putting in place market mechanisms to value all the services batteries provide such as system strength.

Circumventing modern slavery risks in the battery supply chain

Since 2020, AGL has produced an annual Modern Slavery Statement as required by the Modern Slavery Act (2018). In it, we set out the risks of modern slavery in AGL's operations and supply chains, the actions taken to assess and address those risks during the financial year, and how we assess the effectiveness of those actions. We are aware that the procurement of batteries is considered high-risk for modern slavery due to risks present throughout the supply chain. For example, key resources used for batteries (e.g. lithium, cobalt) may be sourced from regions associated with human rights abuses. It is estimated that between 15% and 30% of the cobalt used in lithium batteries, in which solar energy is stored, is sourced from artisanal mines in Democratic Republic of the Congo – where forced and child labour is common.

We carefully assess these issues in our consideration of a particular product and seek options for alternative, ethical sources of materials. The government could look at onshore mineral refining processes that could circumvent identified modern slavery risks, sending a clear signal to operators of these unethical practices and providing a more ethical source of components within the battery supply chain or the entire battery unit if the economics allow.

E-stewardship

The role of the manufacturer in taking a product from start to end of life is becoming an area of focus for consumers and governments alike. Bringing manufacturing and processing onshore could open up opportunities for both second life applications of batteries and recycling at end of life. As EV adoption ramps up, we will approach a point at which we have large volumes of EVs reaching end of life. It is therefore important to get the right settings in place now, so we are ready for second life or recycling processes to address these significant volumes. It's also worth considering whether recycled minerals, if economic, might displace some of the demand for raw minerals and what that might mean for Australia. Developing mineral processing capabilities could allow Australia to benefit from both raw and recycled mineral processing.

As the proportion of intermittent renewable generation in Australia's energy system increases and battery costs decline, demand for batteries for firming and the accompanying benefits they can offer to support the grid will only increase. This strategy presents a timely opportunity for government to plan for this demand, identifying which target segments of the battery supply chain can bring the

most value and benefits to Australia helping to realise all the benefits of energy storage to the electricity grid and securing Australia's future renewables-based energy system. We look forward to continuing to work with government to inform the development of the National Battery Strategy.

If you have any queries about this submission, please contact Siobhan Bradley (Policy Manager) at sbradley4@agl.com.au.

Yours sincerely,

Chris Streets

General Manager (a/g) Policy, Market Regulation and Sustainability, AGL Energy