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Thank you for the opportunity to provide Dow's perspective on AEMO's proposed Integrated System Plan for the National Energy Market. In summary, there exists an urgent need for a strategic plan to manage the gradual transition to a lower emissions environment. During this critical transition, deliberate actions and policy choices will be required to secure a sustainable long term competitive energy future.

Australia must resolve the energy "Trilemma of Abilities": Affordability, Sustainability and Reliability. The National Energy Guarantee (NEG) necessarily shifts the focus on future actions to balance emissions reductions with the reliability of supply. By design, NEG does not provide a strategy to deliver a comprehensive transitional plan. Together with private industry, AEMO and other agencies must take action and effect policy that reduces the risk and enhances the attractiveness to industry of the investments required to achieve the full NEG aspirations.

Dow strongly supports global efforts to adopt more renewable energy for power generation. We met our goal to use 400 megawatts of clean power by 2025. In 2016, we utilized 698 megawatts (MW) of capacity that are either low carbon or from renewable sources. We want to continue momentum, so we increased the goal to 750 MW by 2025.

However, renewable power sources alone at current available technologies cannot resolve Australia's Trilemma issues. The percentage of power generated in Australia by renewable sources in 2016 was 14.8% with 6.0% from hydro, 4.7% from wind, 2.7% from solar, and 1.5% from bioenergy (Australian Energy Statistics). While progress was made in 2017, the size of the task, the costs involved, and the difficulty of attaining reliability by overcoming the inherent intermittent nature of renewables must not be underestimated.

A strategy for 99.998% reliable dispatchable power is urgently needed to bridge the transition away from ageing, inefficient coal-fired power facilities to a cost competitive grid. The grid for Australia will need to incorporate a design from currently proven technologies to achieve an integrated manageable grid. Today that integrated grid would require a system that combines an evolving optimum of renewables with low emission gas fired power generation along with a gradual retirement of legacy power facilities. As technology develops over the coming decade, Australia may achieve a system with little or very limited fossil fuel fired power. Unfortunately that technology is not commercially demonstrated at the national level today.

In order to maintain grid reliability along with affordability, a proven mix of intermittent renewable power (wind and solar) and dispatchable power (gas and hydro) must be established by the regulator and allowed to evolve over time as cost effective technologies come to the fore. Deliberate selection of natural gas as the bridging power source should become the foundation of a multi-layered energy approach toward achieving sustainability.

The alternative to this proven approach is "hands off - let market decide". The "Hands off" path will predictably look very similar to Australia today with incrementally based solutions to the power and gas supply market based on a sundry patchwork of sub-optimal initiatives. This path will continue to tie Australia to volatile external LNG markets and costly solutions which will continue to be detrimental to all of Australian society (see Shepherd Review, Dec. 2017).

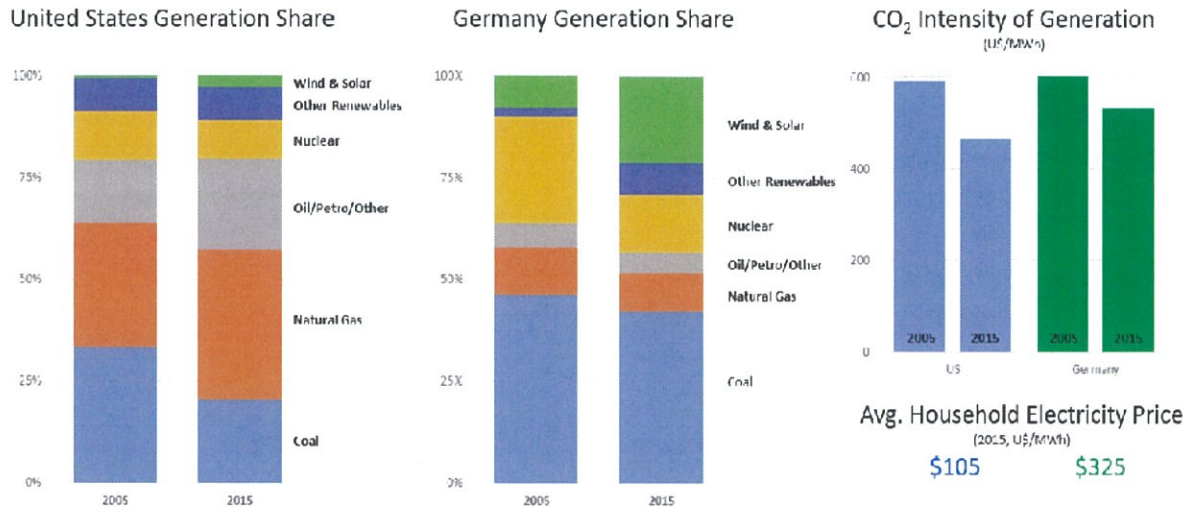
Without a stable, domestically linked gas industry, Australia will see continued industrial flight rather than the new investment suggested by its globally competitive resource base. For example, an investment of $5B in a new ethane cracker and derivatives plants results in $2B per year in value add over exporting LNG directly, five times the economic value brought by LNG alone. Additionally, thousands of high value direct and indirect jobs are created with triple the impact to the local labor market compared to an equivalent investment in LNG.

The Finkel report played down the importance of gas as a transitional priority in the energy mix by extrapolating natural gas pricing from contemporary Australian market prices which have escalated by three to four times in recent years. By contrast, the global gas market prices today are lower than they have been in years and price outlook globally is flat over the next 5 to 10 years. New sources of gas are being developed with ever improving technology, extending the long term attractiveness of gas as a fuel. The traditional price linkage of LNG price with crude oil is weakening as a result. To assume escalation of status quo gas pricing is to remove one of the country's critical energy options which would otherwise be a fundamental element of the transition to lower emissions.

The Finkel report also concluded that: "Both a Clean Energy Target and an Emissions Intensity Scheme are credible emissions reduction mechanisms." While we generally concur with this sentiment, the actual outcomes have failed to varying degrees. In Germany, the Netherlands, the US, and Australia, clean energy targets have had significant unintended consequences, resulting in wide day and night swings in power pricing and highly unattractive investment environments for power producers. Over time, gas and coal generation are retired, leading to further blackouts, etc.

Australia is endowed with significant gas resources which have, nominally, half the emissions intensity of coal. Natural gas is an ideal transition fuel and provides an efficient basis for dispatchable power that can support the balanced increase in renewable energy. Poor policy choices have led to this wealth of resources transforming in recent years from a significant strength to a considerable weakness. By contrast, both emissions and emissions intensity in the US have been reduced (21% over 2005-15 US EIA) by the increased use of gas in a market that operates efficiently from gas reserves, through pipelines to consumer pricing. Australia is ideally positioned to develop a nationwide market with similar benefits.

Although models of the future are subject to erroneous assumptions, real world data clearly show the value of gas as a key driver for resolving the Trilemma of affordability, reliability and sustainability. Over the period 2005-2015 in the United States, natural gas increased its share in power generation dramatically, displacing outdated coal fired plants which were retired when economics no longer favoured their continued operation. Germany, on the other hand, subsidized a substantially increased mix of renewables replacing mostly nuclear plants. During this time, the US CO_2 emission intensity for power decreased by much more than in Germany while electricity was delivered to the average household at less than 1/3 the price. Today, emission intensity in the US is lower than in Germany, demonstrating the importance of gas-fired power generation as the stabilizing, cost-efficient anchor in the transition to a lower emission future (EIA, UBA).



Dow, as a significant participant in the US, Canadian, European, and Argentine gas markets, has decades of experience in this area and would counsel AEMO to work through COAG to provide leadership and deliver solutions for Australia's current energy crisis. Government leadership is required in the form of a specific initiative to bring together the key players in the gas market from reserve/leaseholders, pipeline operators, and power generators to retail operators.

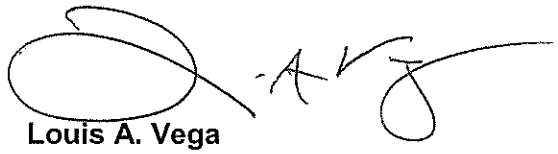
A Task Force approach would be recommended to bring the key players together to facilitate and implement a plan to drive gas supply and associated power generation. Without Government action, the energy industry will gravitate to the lowest common denominator of short-term self-interest as opposed to the national interest.

The key elements to provide commercially competitive dispatchable gas fuelled power are as follows:

- Consensus on gas reserve availability and a process to facilitate availability of gas reserves to support increased power generation;
- Changes to landowner/gas reserve developer incentives for development of reserves (this could be similar to the model used in the US);
- Application of a more aggressive "use it or lose it" approach to gas reserve holders so that the market for gas at the wellhead can operate more efficiently;
- Development of a pipeline strategy that delivers the infrastructure necessary to get the gas to market and power generation facilities. This should yield pipeline operators appropriate (utility type 10-15% ROC) returns and address pipeline access for prospective reserve developers. It may also require the Commonwealth to make a catalytic investment, and
- Coordination of the overall gas supply strategy with power generation investment. This is essential to support the investment required across the whole energy supply chain and deliver the dispatchable power that is required for a reliable and cost effective power supply.

Put simply, without coordinated policy on power, infrastructure and gas, Australia will fail to resolve the affordability, reliability and sustainability Trilemma. Further, it will resign Australia to an inefficient power supply strategy, relegating the country to lower productivity and non-competitive industry and services. The required level of interaction will not happen without specific initiatives aimed at addressing the issue. Currently, there are few incentives for utility operators to facilitate efficient solutions. By default, inefficient unreliable energy supply is paid for by consumers in their energy bills, their lifestyle and their employment options. Consumers without alternatives are forced to accept excessive price hikes while market participants are delivered increased returns. Instead, forward looking leadership is required now to avoid disruptive intervention later.

We strongly urge AEMO to take on the role of coordinating industry participants and involving the state, territory and federal governments in developing these solutions. COAG and the role of AEMO (within this framework) provide a necessary starting point for what must be a holistic initiative to deliver efficient, reliable, low cost and low emission dispatchable power. Dow is willing and able to assist you in this necessary and defining endeavour, and looks forward to participating in a resurgent Australian economy built on globally competitive energy.



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