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Energy Security Board
Department of the Environment and Energy
PO Box 787,
Canberra ACT 2601

Chemistry Australia – Submission to the National Energy Guarantee - Draft Detail Design for Consultation

Chemistry Australia welcomes the opportunity to provide this submission to the National Energy Guarantee – draft detail design consultation paper.

Chemistry Australia is the peak national body representing the business of chemistry. Members include chemicals manufacturers, importers and distributors, logistics and supply chain partners, raw material suppliers, plastics fabricators and compounders, universities, research agencies and service providers to the sector.

This strategic \$40Bn industry directly employs 60,000 people, many in highly skilled jobs, and contributes \$11.6Bn to GDP. The industry is a significant consumer of electricity and gas for heat, steam and other forms of process energy and enables it to supply inputs to 109 of Australia's 111 industries.

This encompasses large scale chemical facilities, including Energy Intensive and Trade Exposed sites, producing fertilisers for crops and chlor-alkali plants that ensure the supply of chlorine for the nation's water treatment demands. It includes major polymer manufacturing plants that enable plastics manufacturers to supply just-in-time hygienic packaging for domestic food chains and cold-chain exports of fresh fruit, vegetables and seafood.

[Context: The National Energy Guarantee must play a role in restoring Australia's industrial and manufacturing global competitiveness.](#)

Chemistry Australia supports the intent and ongoing application of the National Electricity Objective (NEO):

“to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to:

- *price, quality, safety and reliability and security of supply of electricity*
- *the reliability, safety and security of the national electricity system.”*

The NEO provides key guiding principles for the development, implementation and management of the National Energy Guarantee (NEG). For Australian manufacturing to be globally competitive, it must be able to regain the previous competitive advantage of energy supply and affordability, while supporting emissions reduction.

Energy policy, including the NEG, should be focused on enhancing and facilitating strong industry policy. Energy is a vital utility provided so that, in addition to household and commercial use, an economy's manufacturing industries have a reliable and affordable energy source to add value to resources and materials, employ highly skilled workers and generate GDP including high value-adding manufactured goods for domestic and export markets. These objectives need to be maintained while Australia meets its greenhouse gas emission targets.

However, the persistent lack of certainty surrounding Australia's energy and climate change policies has resulted in a lack of investment in electricity generation infrastructure which has led to unprecedented cost and reliability concerns, significantly constraining manufacturing and industry. The net result is that Australian industry and manufacturing are less globally competitive.

This is evidenced by the Australian and Competition and Consumer Commission (ACCC) reporting that Australia's comparative electricity price advantage has deteriorated from fourth amongst OECD nations in 2004 to tenth by 2016¹. The report further notes that "other measures have Australia in a much worse position."²

The ACCC concludes its analysis with the observation: "On any measure, it is clear that electricity prices in Australia have gone from a source of competitive advantage to a drain on business productivity and a serious concern for households."³

On this basis, the long-term interests of consumers defined in the NEO have not been met.

The reality then for industrial energy users is that energy policy, including the NEG, must help resolve these unprecedented cost increases that are usually unable to be passed onto customers. The NEG must assist providing industry with affordable and reliable energy, as well as providing a stable and credible path for emission reductions.

Any outcome less than this will not meet the intent and expectations of the National Electricity Objective, or the expectations of major industry requiring a confident basis for their own investment and growth. This is the lens through which Chemistry Australia's following responses and observations should be viewed.

Feedback and observations

- 1. Chemistry Australia supports improving electricity supply, price and emissions outcomes and the NEG's role in helping achieve these.**
- 2. The NEG must play a strong role in reducing electricity prices for consumers**

There appears to have been a shift away from the COAG Energy Council's original objectives of system reliability and emissions reductions, at the lowest overall cost⁴.

The current draft detailed design consultation paper notes the intent of integrating energy and

¹ *Retail Electricity Pricing Inquiry, Preliminary report*. Australian Competition and Consumers Commission, 22 September, 2017

² *ibid*

³ *ibid*

⁴ "National Energy Guarantee: High level design document", p10 Energy Security Board, 20 April 2018

emissions policy that encourages new electricity investment, premised on the view that lowering investment risk will ultimately bring prices down.⁵ For example, Section 2.1 sets out four ways the NEG intends to lower prices. These include a number of assumptions that reducing investment risk and providing a more balanced system automatically translates to lower prices to consumers.

However, investment certainty in supply, is no guarantee of lower prices for consumers. In this way, the NEG could be seen as providing a mechanism to guarantee improvements in reliability and emissions, but not yet a guarantee of it ensuring this provides affordability.

For example, Chemistry Australia remains concerned about a repeat of previous ‘gold-plating’ investment which consumers ultimately had to pay for. Investment in new electricity capability cannot again be gold-plated at the expense of users already suffering from unprecedented prices completely out of scale with other economic factors.

2.1: Chemistry Australia seeks clarity about how the NEG will manage the risk of overly expensive solutions for consumers requiring functional utility power for industry. Chemistry Australia recognises this may be a combined approach with other bodies.

2.2: Chemistry Australia seeks any further clarification about how providing meaningful risk and cost certainty for energy companies will directly translate to meaningful supply and price outcomes for consumers.

3. Reliability

Long term, strategic power reliability is built upon three pillars of: security to meet minute to minute, daily demand; firmness to meet demand over the intermediate term, and adequacy of power generation that ensures sufficient investment in generation over strategic time frames.

The NEG design addresses firmness and adequacy, but consideration must be given to whether security (i.e., to avoid brown outs) is fully addressed by the NEG.

3.1 To support reliability objectives, Chemistry Australia recognises the value of a census, or similar method of dispatchability to define dispatchable generation capacity that exists in the market today.

Not all coal-fired power generation may be dispatchable by design. As intermittent renewables grow in total capacity, dispatchable power generation must also scale to address the intermittency challenge and ensure the security pillar of reliability.

Most of the installed generation capacity has been “dispatchable” (able to generate as required) provided by coal, gas and hydro-electric plants. While coal can be dispatchable, it is not inherently dispatchable unless designed to be. A framework to define dispatchability and whether a coal plant qualifies as dispatchable should be implemented for greater market transparency.

⁵ “National Energy Guarantee, draft detailed design consultation paper” executive summary, Energy security Board, 15 June 2018

3.2 As part of the intended orderly transition process, the balance between emissions reductions, affordability, and reliability must also be addressed.

As it stands today, Australia has neither energy storage nor adequate load that can be shed at higher price. Although the technology is evolving, batteries are not ready for widespread grid-scale application for extended periods and pumped hydro is not available in all areas. Similarly, there is insufficient demand response (i.e. such as certain industrial demand) to offset rapid changes in supply. As a result, a grid with a high proportion of intermittent renewables will require a high installed capacity of dispatchable power that is often unused (i.e. when renewables are providing sufficient power for the grid). In order to recover the cost of large capital investments over short periods of operation, a high power price is required - which challenges the affordability goal of the NEG.

It would therefore seem contradictory to the NEG objectives for traditional baseload to be shifted to peaking power, turned on only when renewables fail to meet demand. The market is best served by capital investment in assets that recover their capital cost over a period of long and stable operation. It will be important for the NEG to cater for this type of investment as part of its generation and supply mix.

3.3 Chemistry Australia's view is that large consumers should have opt-in flexibility as liable entities.

Whilst large users have an interest in managing supply risk for their operations, making them default liable entities under the reliability mechanism seems at odds with the NEG. It has the potential for unintended consequences given there are variables outside of their control for which they would have statutory liability added to their corporate risk profile. It is unclear about how this liability risk could be mitigated or managed across all business types.

Conversely to what the design paper argues in section 4.5, by providing a more certain investment environment for major users as a result of having more stable and affordable power, it is just as likely that major users may not switch suppliers as often in order to seek more competitive utility inputs. This would in turn reduce the risk to retailers individually and in aggregate and reduce their risk profile and attendant costs. This reduction in risk and its costs could then be passed on as cost savings to customers to better secure longer-term supply at more competitive prices and contract terms.

However, some large users may wish to exercise this option to best manage supply reliability risk. It should be provided as an opt-in provision.

3.4 Clarifying and setting the predetermined proportionate cost per MW

Penalties will be assigned to retailers that are assessed to have fallen short of their reliability obligation. A liable entity found to be non-compliant will be charged a predetermined proportionate cost per MW of non-compliance. In addition, the AER will retain its ability to apply its usual suite of enforcement options.

Clarification is required regarding what is the "predetermined proportionate cost per MW" and how will it be set? If it is too low, retailers will pay and little will change while if it is too high, the system would likely end up with too much capacity.

3.5 Chemistry Australia recognises the role of demand response but cautions against its institutionalisation to deal with supply vulnerability.

Demand-side response is one of the recognised tools to deal with peak demand gaps. However, there is the potential for perverse net outcomes in terms of manufacturing productivity and GDP losses where the NEM's reliability has institutionalized reliance on large users not using electricity.

3.6 Chemistry Australia recommends AEMO's forecasting processes and results undergo quality audits as part of its annual performance review.

The reliability and consistency of AEMO's forecasting will be crucial to the NEG's ability to deliver reliability. If it not already the case, it will be important that AEMO's systems comply with a valid and certified quality and quality improvement program such as ISO 9001 or similar. These should be audited regularly, as part of the annual performance review. The systems need to be adapted to new information, technologies and other factors changing system performance and operation including their inherent accuracies.

3.5 Considerations for setting the trigger period.

If, three years from the period in question, a material gap continues to exist or a new material 'gap' emerges then the reliability obligation will be set to trigger, and retailers will be on notice that they may have to demonstrate future compliance.

When material gaps emerge due to impending retirement of existing generation capacity, then a trigger at three years is likely sufficient notice for planning. However, in a market with competitive power pricing, demand would be expected to grow over time. If the reliability obligation triggers due to insufficient supply growth - three years may not be sufficient to permit, plan, and construct the necessary generation capacity.

4 Governance arrangements

4.4 Chemistry Australia agrees with the proposal to integrate the NEG with existing mechanisms and governance frameworks in that it has the potential to reduce complexity and cost.

4.5 Chemistry Australia recommends there be a suitable form of independent audit and reporting of how the NEG and its systems are performing. Governance relies on accurate information for it to be effective.

4.6 Chemistry Australia recommends governance and audit processes include the engagement and involvement of major users.

5 Off-grid power

Chemistry Australia notes that the NEG and this design consultation process relates to the current NEM. It also noted that there are a range of technologies available and operating that provide power off-grid and independent of the NEM. There will be others likely to be developed over time and used where the investment makes sense.

The investment in and operation of off-grid systems should not be negatively impacted by the NEG.

To prevent unintended consequences, the government should be mindful of a range of factors including:

- A technology neutral approach based on the principles of selection on merit
- Ensure incentive programs do not discriminate between off- grid technologies options and grid based solutions.

Chemistry Australia looks forward to working with the Energy Security Board on this and other actions that provide suppliers with investment certainty for electricity services that deliver long term price, supply, and emissions benefits for consumers, the broader economy and environment.

For more information or if we can assist in any way, please don't hesitate to contact me at:
pbury@chemistryaustralia.org.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Peter Bury', with a long horizontal line extending to the right.

Peter Bury
Directory – Strategy, Innovation and Research
Chemistry Australia