



AUSTRALIAN
ALUMINIUM
COUNCIL LTD

Level 1,
18 National Circuit
Barton ACT 2600
Ph: 02 6267 1800
info@aluminium.org.au

Department of Industry, Science, Energy and Resources (DISER)
Via - gas@industry.gov.au
Subject: "Consultation Paper – Options to advance the east coast gas market"
23 December 2021

Dear Minister

Australian Aluminium Council Response to Options to Progress the East Coast Gas Market

The Australian Aluminium Council (the Council) represents Australia's bauxite mining, alumina refining, aluminium smelting and downstream processing industries. The aluminium industry has been operating in Australia since 1955, and over the decades has been a significant contributor to the nation's economy. It includes five large (>10 Mt per annum) bauxite mines plus several smaller mines which collectively produce over 100 Mt per annum making Australia the world's largest producer of bauxite. Australia is the world's largest exporter of alumina with six alumina refineries producing around 20 Mt per annum of alumina. Australia is the sixth largest producer of aluminium, with four aluminium smelters and additional downstream processing industries including more than 20 extrusion presses. Aluminium is Australia's highest earning manufacturing export. The industry directly employs more than 17,000 people, including 4,000 full time equivalent contractors. It also indirectly supports around 60,000 families predominantly in regional Australia.

The Council welcomes the opportunity to provide feedback to DISER on the Paper "Options to Progress the East Coast Gas Market". The Council has focussed its response on only a very limited number of the stakeholder questions from the template.

Section 2.4 What are the objectives of Energy Ministers?

1. *Do you have any comments about the rationale for undertaking consultation? Does the rationale broadly cover the issues that you face in your interaction with the gas market?*

The Council agrees that the East Coast gas market is undergoing a period of substantial transformation, with future supplies uncertain and a risk of shortages. As noted in the Paper, gas market participants, have historically relied on long term contracts to support investments. The Council would disagree, noting that the need for long term contracts to support the long term investments in industry has not changed.

When considering the gas needs of the aluminium industry, in the East Coast gas market over the next twenty years, it is important to consider the time scale for change. While the Australian aluminium and alumina industries are developing and commercialising new technologies, the time, cost, and complexity of developing viable, large-scale alternatives to the use of gas should not be underestimated.

While the industry consumes gas in its aluminium smelters and extrusion operations, the largest use is in alumina refineries, located in both the east and west coast gas markets. The Council believes that gas will have an important and necessary bridging role in lowering carbon emissions, as it is technically and, on the

right commercial terms, economically viable today. Zero emissions alternatives require further development, both technical and economic. The evolving gas needs of an electricity system with higher levels of renewable generation and new technologies like hydrogen, also need to be considered. This will be particularly important in ensuring all options for industry transition, including fuel switching and electrification, are not only technically but also commercially viable.

The industry is currently investigating options which include the use of renewable hydrogen in its processes, particularly in the production of alumina. Australian Renewable Energy Agency (ARENA) recently announced funding to support a Rio Tinto feasibility study investigating the potential to partially decarbonise its alumina refining operations using renewable hydrogen. Conventional alumina refining combusts natural gas to achieve the high temperatures necessary in the calcination process. Rio Tinto will investigate the technical implications of displacing natural gas with renewable hydrogen at its Yarwun alumina refinery in Gladstone and the study will inform the viability of a potential demonstration project to validate the findings. The study will see an improved understanding of the potential for renewable hydrogen to be used in the alumina refining process along with the scope of development works required to implement hydrogen fuelled calcination technology at an existing alumina refinery. Importantly, the findings of this study may have applications in other high temperature Australian manufacturing processes, beyond alumina and beyond the mineral processing sector. Additionally, if successful, the technical and commercial lessons could lead to the implementation of hydrogen calcination technology, not only in Australia, but also internationally.

Additionally, if there was to be an increased supply of competitively priced low or zero emissions electricity, and subject to technological advances, there is the potential to materially increase the electrification of alumina refineries in both the NEM and SWIS electricity markets. ARENA recently announced \$11.3 million in funding to Alcoa of Australia Limited (Alcoa) to demonstrate technology that can electrify the production of steam in its alumina refining process. Approximately 70 per cent of the total fossil fuels consumed in alumina refining relates to the production of steam in boilers. Mechanical Vapour Recompression (MVR) is a potential alternative to displace steam using renewable electricity.

The Council is concerned that in a country with the wealth of energy resources that Australia has, manufacturers may need to use gas supplied by LNG Import Terminals, while at the same time maintaining an active LNG export industry.

The Paper notes that only 12% of participants across the East Coast gas market are registered for trading on the Wallumbilla Gas Supply Hub (GSH). The Paper also notes that industrial gas users are still concerned with participation in the GSH, preferring to go through retailers rather than act as wholesale participants or manage exposure through the exchange. The Council and its members are seeking an efficient, effective, and deep Australian domestic gas market – a market which is comprised of many buyers and sellers who are able to negotiate contracts where both sides can obtain a fair return and where shortages in supply lead to higher prices, which in turn bring on additional supply to satisfy this demand. While the Council believes a functioning GSH, with improved liquidity, would be an important part of a more effective gas market; major industrial users are still likely to seek contract bilaterally rather than participating directly in the GSH.

2. Are there any issues which have not been identified which Energy Ministers should consider in the context of undertaking these workstreams?

When considering this work, the Council recommends that the Energy Ministers consider alternative processes; particularly electrification of major industries; which could result in substantially lower demand on the gas network in the future. Changes in gas demand could result in stranded asset risk for new infrastructure, if appropriate consideration is not given to a range of likely scenarios over short, medium and long term periods, resulting in excess costs being passed onto gas consumers. Investments need to be delivered efficiently and at lowest possible cost, to ensure all gas users have access to affordable, reliable supplies.

The Council seeks a national energy policy framework which is transparent, stable and predictable, while maintaining the economic health of the nation including vital import and export competing industries. Access to gas is a crucial aspect of this for the alumina and aluminium industries. To achieve this, ultimately the market needs an increased diversity of sellers, new sources of gas that meet/exceed current domestic requirements and current LNG export capacity, and removal of physical congestion, in order to deliver internationally competitive outcomes for consumers. A market with inadequate gas supply will continue to track volatile international LNG pricing (less netback) and is unlikely to achieve the Government's policy aims.

3. *Do you have any comments about the proposed objectives of this work?*

The Council acknowledges one of the objectives of the work is to accelerate development of the Wallumbilla GSH by identifying and progressing reforms to increase participation and enable more liquid, transparent trade of gas at the Hub. This is part of a greater ambition that the GSH aims act as a truly effective price benchmark, to improve gas consumers' ability to purchase gas at a fair price and improve investment across the gas market. While the Council supports this ambition, we remain concerned about the achievability of delivering an open, transparent, and more competitive gas trading system; given the constraint of transport arrangements and the very low baseline of trades through the Hub, compared to those which are carried out bi-laterally and more particularly, compared to the volume through LNG plants.

Chapter 3: Consultation focus 1: Wallumbilla Gas Supply Hub

6 *Are there structural issues regarding the nature of supply and demand for gas in Australia which could impact the success of reforms aimed at increasing liquidity of gas markets?*

The Grid Reliability Scenario (Figure 6) in the Interim NGIP shows the modelled gas supply vs demand outcomes are very sensitive to the changes in the electricity sector, due to the use of gas firming to maintain system reliability. Recent outages of major generators, particularly in Queensland and Victoria, have confirmed this. Ensuring adequate gas supply and competitive prices for gas; will be essential to ensuring electricity reliability is maintained at least cost to consumers.

There is a high potential that alternative processes; particularly electrification of major industries; could result in substantially lower demand on the gas network in the future. Changes in gas demand could result in stranded asset risk for new infrastructure, if appropriate consideration is not given to a range of likely short, medium and long term use scenarios, resulting in excess costs being passed onto gas consumers.

Conclusion

The Council seeks a national climate and energy policy framework which is transparent, stable and predictable, while maintaining the economic health of the nation including vital import and export competing industries. The ongoing gas market reforms is of critical importance to the Council and its members. The Council is happy to provide further information on any of the issues raised in this submission.

Kind regards,



Marghanita Johnson
Chief Executive Officer
Australian Aluminium Council
M +61 (0)466 224 636
marghanita.johnson@aluminium.org.au