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National Energy Guarantee
Department of the Environment and Energy
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To Whom It May Concern:

National Energy Guarantee—Detailed Design for Consultation: Commonwealth Elements

I am writing in response to the Department's National Energy Guarantee (NEG) Draft Design Consultation Paper released in February 2018.

In 2017, Australian Gas Networks (AGN), Dampier to Bunbury Pipeline (DBP) and Multinet Gas Networks (MGN) came together to form Australian Gas Infrastructure Group (AGIG). AGIG is one of the largest gas infrastructure businesses in the country. AGIG has approximately 2 million customers across every mainland state and the Northern Territory, 34,000km of distribution networks, over 3,500km of gas transmission pipelines, and 42 petajoules of gas storage capacity.

Given our diverse network of assets, and extensive engagement with gas users, including electricity generators, AGIG has a strong interest in improving the functioning of energy markets in Australia and the approach adopted to encourage decarbonisation across the economy.

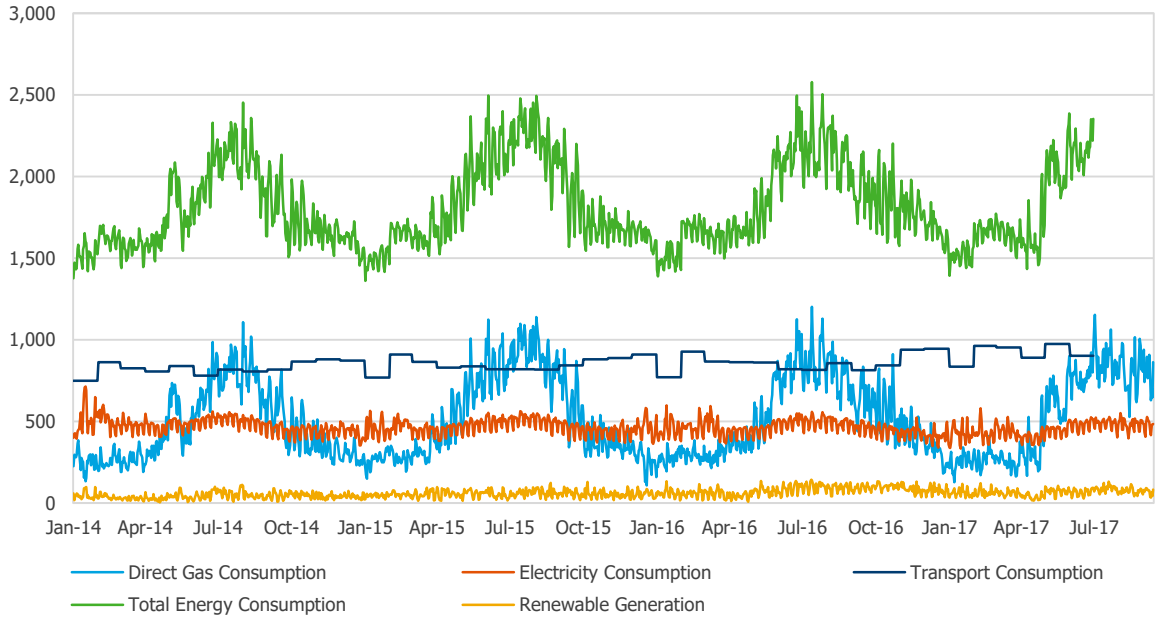
Emissions targets

Energy markets in Australia are undergoing a significant transformation. To underpin this transformation and to ensure appropriate investment occurs in decarbonisation, it is essential that Australia adopt clear, stable, long-term and predictable policies. We therefore support the proposals in the detailed design paper to set electricity emissions targets in line with Australia's commitments in the Paris climate change agreement.

However, policy also needs to recognise the importance of decarbonising other sectors of the economy, such as the gas and transport sectors. Figure 1 below shows for Victoria the energy delivered through direct gas consumption (the light blue line), electricity consumption (the orange line) and transport fuel (the dark blue line). It also shows the level of renewable electricity generation in yellow.

The chart illustrates the scale of the challenge at hand—to meet our Paris commitments, we must decarbonise all energy consumption represented by the green line.

Figure 1: Total Energy Consumption, Victoria (TJ) [1]



At present policy and legislated targets continue to focus almost exclusively on electricity sector emissions. We support the proposals for the electricity sector, with legislated targets to 2030 and five-yearly reviews thereon in. However, this approach will result in inefficient outcomes if emissions reductions are not encouraged across the entire energy sector.

To meet this challenge in an efficient manner, whilst having consideration to the other energy trilemma arms of affordability and security, a balanced approach must be taken. Complete electrification of direct gas and transport is an inefficient solution to the problem. It would require large investment in electricity generation, transmission, distribution and storage, particularly to manage the peakiness of energy usage. It is also unlikely to be achievable in the timeframe required given this large investment.

On this basis, and as outlined in our earlier submission to the NEG Draft Design consultation, we continue to support the application of similar incentives to the direct gas consumption and transport sectors.

Significant opportunities and technologies for reducing emissions using gas networks

The gas industry is already working towards decarbonisation. *Gas Vision 2050*[2] describes the important role that gas plays today in the energy mix and describes the technologies and processes by which we will decarbonise gas supply, which include through:

- *Biogas* – a net-zero emission gaseous fuel recovered from a wide range of renewable sources such as wastewater, food waste and landfill; and
- *Hydrogen* – the most abundant chemical element in the universe, hydrogen is a clean burning fuel, producing water vapour during combustion; hydrogen can be produced through electrolysis

[1] *NEM Review; AEMO Gas Bulletin Board; Department of Environment and Energy, Australian Petroleum Statistics. Note: Chart does not include LPG. Transport excludes aviation.*

[2] The strategy outlined in Gas Vision 2050 outlines the complementary role gas can play in decarbonising energy. Gas Vision 2050 is a key document released by all parts of the gas supply chain (from gas exploration and production, to transmission and distribution networks, to gas appliance manufacturers).

with renewable electricity, steam methane reforming with Carbon Capture and Storage (CCS) or coal gasification with CCS.

We consider that there is significant potential to convert our gas networks to biogas and hydrogen. In support this view:

- overseas, hydrogen is being injected into gas networks at a level of up to 10 per cent, with no need for modification of end user appliances;
- elsewhere, particularly in Europe, mandated biogas targets and targets for the capture of waste emissions for use in gas networks are decarbonising residential gas usage and transport; and
- historically, hydrogen was the primary component of town gas, which was distributed in Australian towns and cities prior to the reticulation of natural gas (which began in the 1960s).

Consistent with Gas Vision 2050, businesses across Australia are investing in a range of hydrogen, biogas and other projects aimed at decarbonising gas supply. These investments will be key for decarbonising household and business gas use, and for decarbonising both transport and electricity networks.

In South Australia, we are leading the HyP SA project to build Australia's largest Polymer Electrolyte Membrane (PEM) electrolyser at the Tonsley Innovation District with a total investment of $11.4 million. Through this work it is clear that gas infrastructure will play a key role in decarbonising the energy sector.

Clear, stable, and enduring policies are essential to support the efficient decarbonisation of the whole Australian economy. Complete electrification of gas and transport however is an inefficient solution to achieve Australia's emissions reduction targets. AGIG and other gas and transport businesses have demonstrated their commitment to emissions reduction through delivery of projects such as HyP SA. It is therefore important for the policy framework to be expanded to support the decarbonisation of the gas and transport sectors.

I thank you for the opportunity to respond to the Commonwealth elements of the detailed design paper. Should you require any additional information please contact Drew Pearman, Manager Policy and Government Relations on 08 9223 4341 or email drew.pearman@agig.com.au.

Yours sincerely

Craig de Laine
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