PROPOSED CPRS TREATMENT OF NATURAL GAS SUPPLY: KEY ISSUES

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KEY POINTS

- Natural gas is the only conventional energy source that can underpin Australia's transition to a low carbon economy during the next 20 years.

- Natural gas produces less than half the greenhouse emissions compared to coal and uses proven, readily available technology.

- Natural gas is also critical to underpin future expansion of renewable energy in Australia. Only natural gas plants can provide the peaking power capacity necessary to support renewable power such as wind and solar, and which makes renewable energy a feasible source of energy for the local market.

- From a global perspective, using natural gas to fuel Australian industry, power generation and households is the most greenhouse effective use of Australia's natural gas resources.

- The current policy framework however ignores and in fact discourages natural gas supply and use as the most effective and efficient means of reducing Australia's greenhouse emissions.

- The Federal Government's Carbon Pollution Reduction Scheme (CPRS) could have significant unintended economic and environmental consequences for domestic gas supply.

- Under the CPRS, the LNG industry is treated as an Emission Intense Trade Exposed (EITE) industry and will qualify for 60% assistance towards any emissions it produces from the production of LNG.

- The production of domestic gas on the other hand qualifies for no assistance meaning that the full cost of a carbon tax will be borne by domestic gas, further impacting the price of domestic gas.

- To the extent that the gas supplier is not able to pass onto its customers the carbon costs incurred at every step in the gas supply chain, this will distort investment decisions in favour of LNG over domestic gas.

- Where gas producers are able to pass on carbon costs to the domestic market, this will further increase the cost of natural gas for downstream industry.

- The CPRS could have serious unintended consequences and distort investment, discourage domestic gas supply, increase gas and electricity prices and undermine Australia's energy security.

- It could also increase Australia's greenhouse emissions and shift investment and energy use from gas to coal.

- The competitiveness and uptake of natural gas could be further undermined by compensation provided to coal-fired energy for carbon costs and the support to renewable energy through a Mandatory Renewable Energy Target.

- Escalating gas prices and domestic gas shortages in Western Australia are already threatening Australia's climate change response.

- At current prices in Western Australia, natural gas is no longer competitive with coal for baseload power generation and most resource processing. This is unlikely to change under an emissions trading scheme.

- A number of resource and energy development projects have had to resort to coal-fired energy with long term consequences for Australia's greenhouse footprint.

RECOMMENDATIONS

- While the current design of the CPRS raises significant concerns for domestic gas supply, these are easily addressed.

- The Alliance **recommends** that:

    - the CPRS recognise natural gas as the most greenhouse and energy-efficient fossil fuel, and the vital role of domestic gas supply in underpinning Australia's transition to a low carbon economy;

    - the CPRS adopts the general principle that any assistance provided to gas producers be on a level playing field and should not discriminate against domestic gas exploration, development and supply;

- the 60% assistance provided to gas producers for emissions produced from LNG production should be extended to domestic gas production; and

- natural gas used as a fuel source should be subject to the same assistance as natural gas used as a feedstock (the White Paper proposes assistance for natural gas used as a feedstock for example by the plastics industry).

- The Alliance **further recommends** that the Government support initiatives to promote the earlier uptake of natural gas as a transitionary fuel in the initial years of the scheme. Key initiatives include:

    - strengthening the Retention Lease system to ensure gas fields that can supply the domestic market are developed;

    - ensuring a competitive gas market by removing anti-competitive joint selling arrangements whereby major gas producers sell as a cartel;

    - promoting domestic gas exploration and development through Federal and State tax, royalty and investor incentives;

    - promoting opportunities for third part ownership and multiple use mid-stream gas gathering and processing infrastructure to facilitate domestic gas development;

    - promoting the development of new “tight gas” fields that can supply the domestic market; and

    - ensuring sufficient reserves of gas are set aside to meet the current and future needs of the community.

BACKGROUND

Natural gas must underpin Australia’s transition to a low carbon economy

- Natural gas is the only conventional energy source that can underpin Australia’s transition to a low carbon economy during the next 20 years.

- Natural gas produces less than half the greenhouse emissions compared to coal and uses readily available technology.

- Gas transmission and supply infrastructure, and infrastructure associated with gas fired electricity, are well developed and reliable.

- Combined cycle gas-fired plants and gas-fired cogeneration plants comprise the most greenhouse efficient forms of non-renewable power generation.

- Over its life, a new 350 megawatt natural gas combined cycle plant will produce 30 million tonnes of carbon dioxide emissions, compared to 70 million tonnes for an equivalent coal power plant.[1] In terms of annual greenhouse gas emissions avoided, the difference is equivalent to removing 325,000 cars off the road.

- Natural gas also underpins the development of greenhouse-friendly gas fired cogeneration plants. Cogeneration plants at alumina refineries in Western Australia for example generate steam which is used in the alumina refining process, as well as electricity for supply into the grid. Cogeneration plants can achieve at least 75% energy efficiency, compared with 30-50% for comparable coal fired generation.

- Natural gas is critical to underpin future expansion of renewable energy in Australia. Only natural gas plants can provide the peaking power capacity necessary to support renewable power such as wind and solar, and which makes renewable energy a feasible source of energy for the local market.

- As the State most reliant on natural gas supply, Western Australia is making a significant contribution to Australia's greenhouse gas reduction.

- Natural gas supplies more than half of WA's primary energy requirements. Natural gas also fuels at least 60 percent of the state's electricity generation.

- Further uptake of natural gas is dependent upon long-term competitively priced supplies of natural gas.

Domestic gas supply is the most greenhouse and energy-efficient use of Australia's natural gas resources

- From a global greenhouse perspective, using natural gas to fuel Australian industry, power generation and households represents the most greenhouse- and energy-efficient use of Australia's natural gas resources.

- Exporting gas as LNG results in significantly higher greenhouse emissions as gas is extracted, liquefied, shipped overseas, then regasified and transported in pipelines before it can be used as an energy fuel in the importing country.

[1] Simshauser, P. and Wild, P. (2007) 'The WA Power Dilemma', p.23; www.bbpower.com/media/299790/25907%20wa%20energy%20summit.pdf.

- A 2009 study by the DomGas Alliance found domestic gas supply to be over 92% energy efficient across its supply chain:

    - When utilising domestic gas, less than 8 per cent of energy is lost in the supply chain.

    - Transport through the Dampier to Bunbury Natural Gas Pipeline - the longest gas transmission system in Australia - uses less than 3 per cent of the total energy.

    - For LNG, 26 per cent of the energy is consumed by the LNG supply chain.

    - LNG produces 20 per cent more greenhouse emissions over its lifecycle on a gigajoule basis compared to domestic pipeline gas.

- A 2007 study by Carnegie Mellon University found LNG generated almost 25% more greenhouse emissions over its lifecycle compared to domestic natural gas. The study also found that the upper band of emissions associated with LNG approached that of coal. [2]

- A 2006 study by Climate Mitigation Services found that liquifying and transporting natural gas in LNG tankers accounted for around 21% of the total lifecycle emissions of LNG.[3]

- It is therefore critical that any Australian carbon scheme promotes the most greenhouse-efficient use of Australia's gas resources and encourages domestic gas supply.

The CPRS could have significant unintended consequences for domestic gas supply

- The Federal Government's Carbon Pollution Reduction Scheme could however have significant unintended economic and environmental consequences for domestic gas exploration, development and supply.

- The CPRS provides a financial incentive for gas producers to export and discriminates against domestic gas.

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[2] Jaramillo, Griffin and Matthews, 'Comparative Life-Cycle Air Emissions of Coal, Domestic Natural Gas, LNG and SNG for Electricity Generation', *Environ. Sci. Technol.* 2007, 41, 6290-6296.

[3] Heede, R., 'LNG Supply Chain Greenhouse Gas Emissions for the Cabrillo Deepwater Port: Natural Gas from Australia to California', Climate Mitigation Services Study, May 2006.

- Under the CPRS, the LNG industry is treated as an Emission Intense Trade Exposed (EITE) industry and will qualify for 60% assistance towards any emissions it produces from LNG production.

- The production of domestic gas on the other hand qualifies for no assistance meaning that the full cost of a carbon tax will be borne by domestic gas.

- To the extent that the gas producer is not able to pass the carbon costs onto its customers, this provides a significant disincentive to invest in domestic gas supply. This could distort investment decisions in favour of LNG and divert gas reserves to exports instead of the already tight domestic gas market.

- This could threaten the use of natural gas as a transitionary fuel, undermine Australia's energy security and diversity of fuel supply, and lead to higher gas and electricity prices for industry and households.

- From a greenhouse perspective, it is also illogical to discourage domestic use of natural gas by providing a financial incentive to export. This could increase Australia's greenhouse emissions and shift investment and energy use from gas to coal.

- The proposed compensation for coal under CPRS as a "Strongly Affected Industry", and the support provided to renewable energy under the Mandatory Renewable Energy Target, could further undermine the competitiveness of natural gas and discourage investment.

- The current policy framework therefore discourages the use of natural gas as the most effective and efficient means of reducing Australia's greenhouse emissions.

The CPRS creates additional costs for downstream gas users

- The CPRS also creates additional costs for downstream gas users where carbon costs can be passed through by gas producers.

- This will lead to significant costs for downstream industry and erode any assistance that might otherwise be provided under the scheme.

- For example, under the CPRS, assistance for the alumina refining industry is based on direct emissions whilst for the aluminium smelting industry the assistance is based on both direct and indirect emissions.

- In Western Australia which uses significant amounts of gas for alumina processing, the assistance will only apply to the emissions generated directly

from the processing of alumina and not for the carbon costs incurred in the gas supply chain.

- Any increased carbon cost of gas processing and gas transmission will therefore directly impact alumina refiners with no mechanism to offset these increased costs.

- This will increase the cost of natural gas as an energy supply for such operations and erode the protection afforded to the alumina industry.

The CPRS must promote investment in domestic gas infrastructure

- Given the strategic role of natural gas as a transitional fuel, it is crucial that the CPRS promote, or at the very least not discourage, investment in domestic gas transport and distribution infrastructure.

- Natural gas pipelines such as the Dampier to Bunbury Natural Gas Pipeline are significant capital assets, with returns tightly regulated on the basis of a long asset life. They are also significant consumers of natural gas for operating purposes.

- A CPRS that reduces domestic gas supply by encouraging LNG exports, or which significantly increases pipeline operating costs, will impact future investment in pipeline capacity.

- Ongoing investment in gas transport and distribution infrastructure is also dependent on downstream industries being able to sustain and grow their operations under a CPRS.

Escalating prices and gas shortages are threatening domestic gas use

- Escalating prices and domestic gas shortages in Western Australia are already threatening Australia's climate change response.

- Current and prospective gas users have been unable to secure long term gas supplies in substantial quantity. The price of such short term gas that is available has risen dramatically.

- According to press reports of recent contracts, WA wholesale gas prices have risen four to five-fold over the past 18-24 months. Prices reported for recent gas sales in WA are now around four to five times Eastern States prices on a delivered basis.

- A number of resource and energy development projects have had to resort to coal-fired energy. For example, the WA Government announced that the next base load power station in the State will be coal-fired as opposed to

gas-fired plant. This has long term consequences for Australia's greenhouse footprint.

- At current prices in Western Australia, gas is no longer competitive with coal for baseload power generation and most resource processing. **This is unlikely to change under an emissions trading scheme.**

- By increasing the cost of clean energy, rising gas prices also undermine industry's ability to meet national greenhouse targets and dramatically increase the cost of any emissions trading scheme.

- Removing gas from a competitive fuel mix will also lead to higher overall energy costs as coal prices traditionally shadow gas prices. Rising gas prices will therefore result in higher coal prices - and higher fuel costs for power generation, and electricity costs for industry and households.

- The current domestic gas shortage could be the single greatest factor contributing to emissions growth in Western Australia over the next decade or more.

Conclusions

- The current policy framework discourages the use of natural gas as the most efficient means of reducing Australia's greenhouse emissions.

- The proposed CPRS could have significant unintended economic and environmental consequences for domestic gas supply.

- It could cause serious domestic gas shortages, result in higher gas and electricity prices, lead to investment distortion, and undermine Australia's energy security.

- From a climate change perspective, it is illogical to discourage natural gas supply by providing a financial incentive for gas producers to export LNG rather than supply the domestic market.

- This could increase Australia's greenhouse emissions and shift investment and energy use from gas to coal.

- The competitiveness and uptake of natural gas could be further undermined by compensation provided to coal-fired energy for carbon costs and the support to renewable energy through a Mandatory Renewable Energy Target.

Recommendations

- The current design of the CPRS raises significant concerns for domestic gas supply and undermines the policy intent behind the CPRS. These design flaws are however easily addressed.

- The Alliance **recommends** that:

    - the CPRS recognise natural gas as the most greenhouse and energy-efficient fossil fuel, and the vital role of domestic gas supply in underpinning Australia's transition to a low carbon economy;

    - the CPRS adopts the general principle that any assistance provided to gas producers be on a level playing field and should not discriminate against domestic gas exploration, development and supply;

    - the 60% assistance provided to gas producers for emissions produced from LNG production should be extended to domestic gas production;

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- The Alliance **further recommends** that the Government support initiatives to promote the earlier uptake of natural gas as a transitionary fuel in the initial years of the scheme. Key initiatives include:

    - strengthening the Retention Lease system to ensure gas fields that can supply the domestic market are developed;

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    - ensuring sufficient reserves of gas are set aside to meet the current and future needs of the community.

The DomGas Alliance

The DomGas Alliance was formed in 2006 in response to a serious shortage of gas supply for new developments in WA. Membership includes current and prospective gas users and gas infrastructure investors.

Alliance members represent around 80 percent of Western Australia's domestic gas consumption and gas transmission capacity, including smaller industrial and household users of gas. The Alliance also represents a significant proportion of prospective demand for additional gas supplies.

Members include: Alcoa of Australia, Alinta, Burrup Fertilisers, Dampier Bunbury Pipeline, ERM Power / NewGen Power, Fortescue Metals Group, Horizon Power, Newmont Australia, Synergy and Verve Energy.

The Alliance works closely with State and Federal Governments and other industry stakeholders to promote diversity, affordability and security of gas supply for industry and households in WA.

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