Review of Energy Market Frameworks in light of Climate Change Policies

AGL Response to Scoping Paper

1. Executive Summary

AGL welcomes this review being conducted by the AEMC. AGL believes that the AEMC has correctly identified a number of potential issues which will have significant implications for the structure and operation of the Australian energy market. AGL agrees that it is important to consider these, and determine what, if any, regulatory response is necessary. However, AGL suggests that it is also important to recognise that many of these issues will find resolution in the natural operation of the market, as the market and its participants adapt. AGL believes that the focus of the AEMC's response should be to ensure that the market is structured so as to appropriately allow for price signals for investment in the transition to the new market conditions.

Clearly, the most significant threat to creating the necessary environment for investment is the risk presented to the ability of retailers to recover carbon costs through the jurisdictionally based regulated retail pricing arrangements. Energy retailers have historically underpinned the majority of investment in upstream supply, either through vertical integration or by way of 'foundation' supply contracts. Retailer cannot absorb any of the additional costs that they will incur on the introduction of the CPRS or the expanded MRET while remaining viable and willing to invest. AGL encourages the AEMC to focus its response on providing a framework which:

- ensures continuing retail price regulation does not prevent retailers from fully recovering the costs that will be incurred in the transition to a carbon constrained future;
- ensures that generator access rules minimise the risk of generators being constrained away from the regional reference price without agreement or compensation; and
- maximises the efficiency of the pricing signals in the market to support investment.

AGL considers the appropriate responses include:

- deregulation of retail prices. Any attempt to regulate the price will mean regulating the carbon pass through, which will effectively require a forecasting of the carbon price. This increases markedly the regulatory risk facing retailers.
- minimising other regulatory changes. AGL agrees that issues surrounding costs of connection and congestion are complex and need to be addressed via regulatory mechanisms but the actual changes should be minimal.

2. Introduction

AGL Energy (AGL) is Australia's leading energy company. We operate across the supply chain and have investments in energy retailing, coal-fired electricity generation, gas-fired electricity generation, a variety of renewable generators and upstream gas extraction. The diversity of this portfolio has allowed AGL to develop a detailed understanding of emissions reduction opportunities.

AGL is Australia's largest retailer of gas and electricity with approximately 3.2 million customer accounts in New South Wales, Victoria, South Australia and Queensland. AGL has significant investments in upstream energy markets. We own and operate 645 MW of hydroelectric power generation assets, the 1280 MW Torrens Island Power Station and the Somerton gas-fired power station. AGL also has a 32.5% equity investment in the Loy Yang A power station. AGL operates the 91MW Wattle Point Wind Farm and recently opened the 95 MW Hallett wind farm in South Australia, which is the first stage in what will eventually be one of the largest wind farms in Australia.

AGL is developing a number of new energy assets. It is important to note that all of these assets are consistent with a carbon constrained future. The assets in development include Stage 2, 3 and 4 of Hallett wind farm (71MW, 90MW and 189 MW respectively), Bogong hydro power generator (140 MW), Victorian wind farm sites (Macarthur 330 MW), Leaf's Gully gas fired-power station (350MW), SE Qld gas fired-power station (350MW), Kogan gas fired-power station (350-800MW), and North Qld gas-fired power station (350 MW).

3. Retailer costs under CPRS and MRET

Source of increased costs

Retailers will incur significant increased costs with the introduction of a CPRS and expanded MRET. AGL believes the increased costs will be comprised of direct compliance costs, and increased upstream costs of supply, transmission and distribution services.

- Direct compliance costs

The CPRS as currently proposed in the Green Paper places liability for the gas consumption of smaller customers on retailers. This means that retailers will be required to acquire permits to account for the emissions attributable to the consumption of gas by small consumers. Further, retailers will continue to be liable under the MRET, and as the target under the MRET expands, so too will retailer liability and the cost of meeting that liability. AGL also anticipates it will be required to comply with a significant liability under the 'complementary' energy efficiency schemes being implemented by the Victorian and South Australian jurisdictional governments.

- Indirect costs

Retailers will incur significantly increased wholesale electricity and gas costs, as generators pass through their costs of complying with the CPRS through hedging contracts and pool costs, and upstream gas producers pass through their costs of complying with the CPRS.

- Increased wholesale electricity costs: generators will incur greater costs due to their CPRS compliance costs, and increased costs associated with funding the

acquisition of permits, particularly if they are required to pay for the permits at the time of acquisition, rather than the time of surrender. Further, AGL anticipates that generators will consider their businesses to be subject to greater risk, including the risks associated with shorter asset life or 'stranded' assets and increased congestion. AGL anticipates this will impact on both contract liquidity and price and pool price.

- Increased wholesale gas costs: AGL anticipates that gas producers will seek to pass through the costs incurred in complying with their direct CPRS liability through higher contract prices.
- Increased costs of gas haulage and storage: AGL anticipates that the transition to a carbon constrained energy sector will require increased investment in gas storage facilities, and a move to 'capacity' haulage arrangements as the need for 'fast start' generation increases so as to provide security of supply where there is increasing reliance on intermittent renewable generation.
- Increased costs of transmission and distribution.

AGL is very concerned as to its ability to fully recover the costs it will incur under the jurisdictionally regulated pricing regimes. While the clear and stated purpose of the CPRS may be to provide a price signal to consumers, AGL remains concerned at the appropriateness of the current pricing regimes to assess the costs and ensure retailers fully recover their costs.

Implications for upstream investment

AGL firmly believes that there is only a limited regulatory response necessary in order to prepare for introduction of the CPRS, as the Australian energy market will naturally move to adjust in the transition to a carbon constrained economy. The primary focus of any regulatory change should be to ensure that there is sufficient incentive for market participants to make the necessary investments in assets and infrastructure.

Retailers have historically been primarily responsible for investment in upstream supply and assets, either as direct investors, or by underwriting projects as foundation customers. Detailed in **Annexure 1** is a list of the upstream projects that AGL has effectively funded, and some major projects that have been funded by other retailers. It must be accepted that if retailers are not able to fully recover the increased costs they will incur with the introduction of the CPRS and expanded MRET, then investment in upstream supply and infrastructure will be significantly impacted.

4. Issues

Convergence of gas and electricity markets

1. How capable are the existing gas markets of handling the consequences of a large increase in the number of gas-fired power stations and their changing fuel requirements?
2. What areas of difference between gas and electricity markets might be cause for concern and how material might the impacts of such differences be?

AGL notes that there is already significant convergence in the gas and electricity markets. AGL is of the view that the key issue will be the fact that pricing in the electricity market is half hourly pricing, while the gas market will still largely be based on long term contractual arrangements, with some limited intraday trading. This limits the flexibility of the gas market, and can operate to prevent real time response from gas fired generators to events in the electricity market. While there will be a short term trading market providing ex-ante daily prices from 2010 onwards, AGL does not believe this will fully address issues of flexibility and responsiveness.

While AGL is agrees that this issue requires further consideration, its preliminary view is that there is unlikely to be any case for regulatory intervention to address these issues. The gas market will mature in the manner necessary to account for issues that arise with this increasing convergence – gas storage facilities will be built, and generation facilities may build the capability to use different fuel types. Again, AGL notes that this will be reliant on upstream investment being encouraged.

Generation Capacity in the Short Term

AGL agrees with the AEMC that the introduction of the CPRS and the expansion of the MRET will have significant impacts on generation capacity in the short term, and that there are a number of factors which may serve to constrain a complete short term response to these capacity constraints. The key transitional issues in AGL's view are:

- The physical, practical constraints in sourcing actual plant equipment; and
- The current lack of liquidity in the contract market, which underpins all investment in upstream supply.

Current Liquidity

As noted above, investment in generation is primarily driven by retailers – either through direct investment (vertical integration) or through long term 'foundation' contracts and off-take agreements. If retailers are not provided with sufficient long term revenue security, they will not make the necessary investments in new generation.

Contract market underpinning investment

The viability or otherwise of investment in generation capacity is dependent on the revenue generators can extract from their contract cover, rather than by reference to the spot price alone. AGL notes that the AEMC have noted the relationship between spot price outcomes and the level of investment, and notes that there is a very close correlation between the forward contract prices and the spot price. However, contract price is also dependent on the degree of risk associated with offering a specified a volume of energy at a specified price. The ability to quantify this risk is a key driver of market liquidity.

At present, very few/no generators are offering contract cover to retailers for energy beyond 1 January 2010. Generators are largely unwilling to sell forward contracts with or without a carbon price included – the uncertainty around the targets, trajectories and auction design is deterring entry into contracts beyond 2010. AGL believes that the uncertainty around compensation arrangements for carbon intensive generators is having a very significant impacting on liquidity.

Further, AGL does not anticipate that the announcement of targets and trajectories will completely alleviate the lack of long term contract liquidity. It seems probable that generators will be continue to be reluctant to enter into contracts for energy without having secured the associated CPRS permits. For example, a retailer may be seeking cover for 2013 in 2010. However, on the basis of the auction schedule currently proposed

in the Green Paper, by September 2010 there will have only been an auction of approximately 25% of 2012/13 permits. Clearly this will not be sufficient for all generators to have secured a significant level of security, and it seems highly unlikely that the secondary market will be providing such volumes of forward trading on 2012/13 permits. This situation will be exacerbated if generators have to pay to acquire the permits at the time of the auction.

On this basis, AGL suggests that retailers will be experiencing difficulty in sourcing long term energy contracts for a period of time beyond the introduction of the CPRS. However, in AGL's view, this should be considered a transitional issue, rather than a longer term shift in the market.

AGL notes the AEMC's reference to the 'capacity market' of WA. AGL does not believe that a capacity market will be in any way better suited to manage a transition to a CPRS. Generators will face the same set of concerns, but may simply be forced to 'price in' the risk into contract prices, eventuating in even higher prices being passed to retailers and consumers.

Transitional vs long term issue

As noted above, AGL anticipates that the lack of liquidity in the contract market, and consequent lack of investment in the generation sector, will be a transitional issue. Further, AGL does not believe there should be any attempt to form a regulatory response to this issue.

However, unless retailers are permitted full cost pass through of all costs related to the introduction of the CRPS and expanded MRET, AGL believes there will be a significant and lasting impact on the level of investment in generation capacity.

Likelihood of intervention by system operator

As suggested by the AEMC, AGL agrees that it is possible that there will be an increased number of circumstances where the system operator will need to intervene to manage supply and demand issues in the market. As noted elsewhere in this submission, AGL does not believe it is possible to determine the nature or the scale of these issues, nor to conduct any real assessment of the capacity of the system operator to respond to those incidents.

While AGL supports further consideration of this issue, AGL's preliminary view is that there is unlikely to be a regulatory response that can adequately address the issues of short term, or long term investment, without first ensuring retailers are permitted to pass through the full costs they will incur in this transition to a low carbon economy. All plant and system investment ultimately rests with retailers, and unless retailers are confident in the security of their investments, then the necessary investment will be stalled and system security will become an increasingly significant issue.

AGL notes that the options available to the operator for short term increases in reserves or capacity are limited. It would therefore seem more useful for the AEMC to focus on how investment in generation or demand side response can be enhanced.

Investing to meet reliability standards with increased use of renewables

AGL agrees with the AEMC that there are likely to be issues arising from the increase in intermittent generation, particularly in the southern part of the NEM where wind generation is likely to be the predominant new generation.

As has been discussed in a number of forums, industry participants believe there is a material risk that as renewable generation is built, reliability of supply will become more of

an issue. It is also broadly accepted that in order to manage this reliability issue, there will need to be significant 'complementary' investment in fast-start generation plant. Further, this plant will have specific infrastructure requirements to support the intermittent use of these generation facilities, namely additional largely 'unused' gas haulage capacity and/or storage facilities.

AGL also anticipates a significant risk that assets will become 'stranded'. As renewable generation enters the market, and as 'complementary' assets are built, there is a possibility that existing assets become increasingly redundant.

In effect, there will need to be significant investment in generation plant and supporting infrastructure with a very low capacity factor. This means retailers will need to underwrite the investment at high 'capacity' contract prices. Again, in order for this investment to proceed, retailers must be assured of their ability to fully recover these costs from customers.

Increases use of renewables as part of the generation capacity in the market will require the development of parallel ancillary services to support the nature of this generation. It is likely that short term reserves (five minutes to one hour, one to three hours) and system inertia will need to be provided to support the variable and low inertia renewable plants.

In addition some form of standby (or increased reserve plant margin) will be required for the one to three day lulls in wind that can occur. This may need to be contracted demand side response.

Operating the system with increased intermittent generation

While it is not possible to fully assess how material the issues arising from an increase in intermittent generation will be, AGL considers that the operator will be faced with:

- Requirements to maintain system intertia and load following capability; and
- Large variations in output. This will be minimised if the AWEF system is able to reliably able to predict wind farm output.

AGL considers it unlikely that the system operator would be able to manage these risks effectively without specific ancillary services.

Connecting new generators to energy networks

The regulations governing the funding of new generation connection have been contentious for some time, and AGL shares the AEMC's concerns that these issues are likely to become more significant as the build of renewable generation escalates.

As AGL has submitted previously, it considers that any connecting generator will need to be assured that they can achieve the levels of output that they expect when they decide to construct their assets. This means preventing later generators removing their access without agreement or compensation.

Rules 5.3 to 5.4A discuss requirements on TNSPs to ensure that new connections are assessed on a basis of not reducing the access of existing generators. These Rules have, however, not been successfully applied.

It is imperative that the AEMC ensure that generator access risk is reduced.

Augmenting networks and managing congestion

As discussed above, AGL considers that avoiding congestion in an economically sound way is essential. Some level of congestion will always occur and, given the intermittent nature of many renewable generators, is probably efficient. It is important, however, that the correct pricing signals are given both at the investment and operational levels.

AGL has previously submitted to the AEMC congestion management review on these issues. We consider that the AEMC must reconsider its responses to submissions to that review.

Congestion is managed in three ways:

1. Prevention. Appropriate pricing signals provide guidance during the investment process and guide parties to the locations that minimise overall costs. Since jurisdictions have elected to price congestions separately from energy, that signal is best provided via network charges agreed at the time of investment.
2. Removal. Where it is cost effective, either via the regulatory test and network augmentation or by generator contribution the congestion can be built out. This will require protection of the access gained by generators as discussed above but if simply applied will create the incentive for relevant parties to pool their resources to access higher priced regions.
3. Sharing. Where congestion is intermittent or too small to build out the dispatch algorithm needs to apportion the available capacity to prevent the disorderly market that results from the current electricity market approach. This could be as simple as sharing the capacity based on available capacity, as proposed to the AEMC during the congestion management review.

In the gas markets many of these issues have been resolved by participants agreeing to commercially manage the situation. While there is some concern that marked changes in gas use will cause the current arrangements to fail, AGL considers that the AEMC should not seek to increase the regulation of gas markets.

Retailing and financing new energy investment

See Section 3 above.

Annexure 1

List of Projects

- Somerton - $148m
- Bogong – $234.2m
- Hallett - $140
- Hallett Hill - $166m
- Starfish Hill Windfarm - $65m
- Canunda Windfarm - $92.5m
- Valley Power - $230m
- Playford Power Station Refurbishment - $160m
- Spring Gully/Fairview Coal Seam Methane Projects Qld - $180m
- Sydney Gas – Camden Project - $60m