www.jemena.com.au

AEMC Review of Energy Frameworks in Light of Climate Change Policies

20 November 2008

Contact Person
Verity Watson

Title
Manager Market Regulation

Phone Number
(03) 8544 9447

Email
verity.watson@jemena.com.au

Jemena Limited
ABN 95 052 167 405

321 Ferntree Gully Road

Mt Waverley VIC 3149

Postal Address:
Locked Bag 7000

Mt Waverley

VIC 3149

Ph: (03) 8544 9000

Fax:(03) 8544 9888

Contents

1 Executive summary

The AEMC are analysing the impacts of the Government's two key climate change policies: the Carbon Pollution Reduction Scheme (CPRS) and the expanded national Renewable Energy Target (expanded RET). Both of these policies will have large and direct impacts on the energy markets.

Jemena are supportive of the AEMC approach to seek initial stakeholder views on issues and risks of these policies in the energy market before focussing on a short list of issues for further analysis and development of mitigation measures.

Jemena are supportive of the climate change policies in principle as they encourage new opportunities for carbon mitigation in the energy industry. However the detailed framework and policy setting on the new CPRS do create a level of uncertainty in the industry. As the detailed framework is developed and emerges, some of the issues identified in this paper may be resolved or lessened significantly.

Other initiatives in the energy industry to facilitate improved visibility and liquidity in the gas market such as the short term trading market (STTM) may also help address risks raised in this paper. We are keen to see these initiatives implemented and bedded into the market operations before analysing the need for or seeking further regulatory change. Jemena strongly support the value of stability and predictability in the energy markets regulatory regime.

As long as the market for the development of further generation capacity is structured in the most efficient way then it is up to the market to work it out. If the price signals are right, there should be no need to increase the level of direction on any specific party to undertake certain activities. These new carbon policies should then just be an overlay on the existing framework.

Jemena considers that there is no need for further change in the gas market to encourage efficient investment.

Jemena are concerned with the demand and cost forecasting risks the CPRS and other environmental policy initiatives pose to the electricity and gas distribution businesses. The introduction of these policies across the economy make the accuracy of forecasting far more complex. The distribution businesses operate on a 5 year price review cycle. Any risk in the accuracy of forecasting demand, cost and uptake for embedded generation will be at the risk of the distributor under the current framework;

- Distributors use many goods in the network that result from energy intensive industries, these will be expected to increase in cost under CPRS;
- The distributors need to consider the cost of reporting and managing their obligations to the CPRS and other environmental policy initiatives;

- Electricity distributors have significant increased risks under the CPRS scheme with unplanned sulphur hexafluoride emissions from some components of the network;
- There will be forecasting demand risks associated with the customer's demand response as the CPRS costs are reflected in increased retail prices and also as the electricity customers become more empowered with timely information and more innovative tariff offerings associated with the smart meter roll out;
- The forecast costs of acquiring permits is also a risk that gas distributors face, the cost of permits is likely to be volatile and subject to price changes if any of the policy setting in the CPRS alter; and
- The uptake of embedded generation is subject to a forecasting and impact risk, electricity distributors are exposed to the deep connection costs and network augmentation arsing from increased fault levels attributed to embedded generation.

These issues increase the uncertainty for electricity and gas distributors regarding the impact of climate change on regulated businesses. The businesses are in the best position to determine the mechanism to appropriately deal with these new challenges and it will be important that they have the flexibility to innovate both at a technical and regulatory level. Where regulatory environments are not flexible enough to cater for these risks or the necessary step change adjustments, it is likely that the necessary investment in infrastructure will be put in jeopardy. Regulatory innovation may include new incentive schemes with regard to new services, innovative pricing structures and the like. The flexibility in the gas regime may provide a useful starting point.

2 Introduction

Jemena Limited (Jemena) welcomes the opportunity to provide feedback to the Australian Energy Market Commission on the "Review of Energy Market Frameworks in light of Climate Change Policies". This response is on behalf of our distribution businesses, Jemena Electricity Networks (Vic) and Jemena Gas Networks (NSW), and our gas transmission business, Jemena Pipelines (Eastern Gas Pipeline, VicHub and Queensland Gas Pipeline).

Jemena networks have also contributed to the Energy Networks Association (ENA) submission. Jemena supports the ENA submission, and endorses their recommendations.

The two key climate change policies considered in the AEMC scoping paper are the CPRS and the expanded RET. The AEMC is seeking initial stakeholder input on a range of questions broadly covering the following 8 issues:

- Convergence of gas and electricity markets
- Generation capacity in the short term;
- Investing to meet reliability standards and increased use of renewables;
- Operating the system with increased intermittent generation;
- Connecting new generators to energy networks;
- Augmenting networks and managing congestion;
- Retailing; and
- Financing new energy investment.

Jemena provides comments on each of the issues and questions in the following section.

3 Response to issues raised

3.1 Issue 1: Convergence of gas and electricity markets

Climate change policies will mean a larger role for gas, but differences between gas and electricity markets may mean that the market response is inefficient.

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?

3.1.1 Gas Transmission

Jemena consider that the existing gas markets are capable of handling the increased gas requirements caused by increased gas fired power stations.

The Gas Market Leaders (GML) group is developing the Short term Trading Market (STTM) which will provide the flexibility that gas customers need. This initiative is expected to be introduced in the next 12 months. The GML should review the STTM once it is fully operational before analysing whether there is any need for market or regulatory intervention.

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?

3.1.2 Gas Transmission

Jemena consider that the STTM should provide the market flexibility that gas customers need. We do not consider that there is a systemic market issue.

There are differences between the gas and electricity markets. Many of these differences are valid and should remain. For example gas dispatch does not need to match electricity markets as line pack allows pipelines to respond to variations in load during the gas day. Pipeline operators already provide flexible transportation products to generators without adversely impacting on other shippers.

3.2 Issue 2: Generation capacity in the short term

Delays to generation investment due to current uncertainty on the future policy settings, and timescales required to commission new investment, could result in a transitional problem in respect of the adequacy of generation capacity.

3. What are the practical constraints limiting investment responses by the market?

Jemena consider that there are a number of constraints that limit the investment response:

- The details of the CPRS, including the framework and the emissions trajectory;

- Climate changes responses and compensation;
- NSW privatisation;
- Redevelopment of the NSW electricity trading scheme; and
- Issues related to the development of small scale generation – location, EPA approvals, gas supply, adequacy of infrastructure.

4. How material are these constraints, and are they transitional or enduring?

The constraints identified above are transitional, commercial entities or policy makers are able to work through these issues without further regulatory intervention.

5. How material is the likelihood of a need for large scale intervention by system operators? How likely is it that this will be ineffective or inefficient?

As long as the market for the development of generation is structured in the most efficient manner then the market should be left to work. If the signals for new generation capacity are right, there should be no need to direct the system operator to intervene. The system operator has no place in the commercial investment market.

3.3 Issue 3: Investing to meet reliability standards with increased use of renewables

If standards relating to the reliability of electricity supplies are going to continue to be met, then investment in intermittent generation (such as wind-farms) will need to be matched by investment in other forms of generation (or transmission) – to ensure that supplies are reliable when wind generation is unavailable. Existing market frameworks might not deliver investment in such "back up" capacity at an acceptable cost.

6. How material is the risk of a reduction in reliability if there is a major increase in the level and proportion of intermittent generation?

3.3.1 Electricity Distribution

Distributors have an obligation to consider non network solutions, not just network augmentation in order to meet the requirements of consumers. As traditional network augmentation is displaced by intermittent generation, there is a risk that network reliability could be impacted. Embedded generators may impact supply reliability in a number of ways:

- causing power quality issues such as voltage fluctuations when the generators are switched on or off,
- providing only intermittent generation (eg wind) not necessarily aligned with customer demand;

- the embedded generator may not be designed to the same level of reliability; and
- the embedded generator could cease generation based on commercial decisions.

Distributors are subject to service performance incentives for supply to their customers. Embedded generators may have a performance target for operation but their operations are essentially independent of the distributors. This means that distributors whilst not having total control over the assets providing services within their network area, could be exposed to regulatory penalties for not meeting service targets.

Distributors should not be penalised for reliability issues caused by increasing use of intermittent generation.

Reduction in reliability will have significant impact on customers as demonstrated in the recent VENCorp 'Value of Customer Reliability' study - value of unserved energy to customers could amount to $47,800 per MWh. Jemena consider that clear agreement on security of supply planning and operational responsibilities, an improved understanding of the issues of increased embedded generation across transmission, distribution and generation, and equitable allocation of service performance responsibility are areas for future improvement.

7. What responses are likely to be most efficient in maintaining reliability?

3.3.2 Electricity Distribution

Distributors have no control of reliability of generating plant. Distributors can maximise reliability of the network connecting embedded generators to the transmission grid.

Distributors need clear directives on how reliability of embedded generators should be taken into account in network planning and achievement of service performance incentives. Through the ENA Demand Management Committee, distributors have been working towards a common set of technical standards for the connection of embedded generators, including renewables. There are some areas where better clarification of regulations is required. For example embedded generators generally contribute to increase in system fault levels. Where such contribution leads to an increase in fault level deeper into the network, the question arises as to who bears the costs for fault level mitigation work and the potential for "free riders" who connect later.

3.4 Issue 4: Operating the system with increased intermittent generation

Climate change policies may require more flexible operation of thermal generation plant, and this may create technical challenges or inefficient market outcomes.

8. How material are the challenges to system operations following a major increase in intermittent generation?

3.4.1 Electricity Distribution

As outlined in question 6 above, distributors are incentivised to meet service performance targets. These performance targets mean that any shortfalls in meeting the target or quality of supply to consumers could result in penalties to the distributor (or compliance issues) caused by the embedded generators.

Distributors should not be penalised where higher risk non network solutions are utilised provided that guidelines and regulations are followed. Consideration should be given to amending the NER to deal with this issue so that distributors are not penalised for alternative solutions.

9. Are the existing tools available to system operators sufficient, and if not, why?

3.4.2 Electricity Distribution

The distributors focus is to ensure public safety and minimise the risk posed by all embedded generators. Distributors are always under pressure to reduce connection costs to embedded generators as they have to bear most of the costs. In particular, fault level reduction works and communication systems are generally expensive if they are required. In this regard, existing tools available to system operators are generally sufficient.

10. How material is the risk of large scale intervention by system operators and why might such actions be ineffective or inefficient?

No comment.

11. How material are the risks associated with the behaviour of existing generators, and why?

No comment.

3.5 Issue 5: Connecting new generators to energy networks

Differences between gas and electricity networks, and the reliance on bilateral negotiation over connection, means that the significant expansion of gas and electricity networks may not be delivered in a timely way or at an efficient level of cost.

12. How material are the risks of decision-making being "skewed" because of differences in connection regimes between gas and electricity, and why?

3.5.1 Electricity and Gas Distribution

Jemena consider that the connection of generators to electricity or gas networks are generally unique, non standards connections that need to be managed. These connections are occurring today and generators often [generally/usually] meet the

costs of the network augmentation. We are not aware of the skewed decision making being referred to in this question.

Where standard connection agreements are useful for small photovoltaic customers these already exist.

13. How large is the coordination problem for new connections? How material are the inefficiencies from continuing with an approach based on bilateral negotiation?

3.5.2 Gas Transmission and Distribution

As described above connection of generators are not standard, they are customer specific, often high pressure gas connections. These are best managed on a bi-lateral basis. Jemena do not consider that there are material inefficiencies as connections are being made on the transmission network today.

3.5.3 Electricity Distribution

As stated earlier in this response, Jemena supports improved clarity of the Embedded Generation connection process in relation to obligations, liabilities and technical requirements. Whilst Jemena support some common or uniform connection documentation this is not at the expense of overriding the distribution networks specific protection or technical requirements for the generation type/size involved, nor should it be seen as an automatic right of connection.

14. Are the rules for allocating costs and risks for new connections a barrier to entry, and why?

The NER provides a logical sequence of steps in processing connection applications through to gaining a Connection Agreement. Whilst the steps are logical, the timeframes set in the NER are unrealistic. It takes time to provide considered appropriate technical responses and to enable time for iterations to gain all information required and gain agreement on what is a workable connection.

3.6 Issue 6: Augmenting networks and managing congestion

Climate change policies may result in higher levels of congestion on energy networks and there is a risk that congestion costs are not minimised, or that they create a significant risk for potential investors.

15. How material are the potential increases in the costs of managing congestion, and why?

3.6.1 Gas Transmission

With increased use of gas fired power stations gas congestion on transmission pipelines may occur. Existing marketing personnel deal with pipeline congestion today and manage through these issues. Jemena do not consider that this commercial contracting/investment arrangement warrants regulatory intervention.

Further, the STTM once implemented should be able to provide additional visibility of pipeline physical constraints.

In an effective market, appropriate price signals would be expected to encourage the necessary investment to alleviate congestion. Long term bi-lateral contracts would be expected to underpin the necessary investment on a commercial basis.

3.6.2 Electricity Distribution

Embedded generators are generally exposed to the shallow or direct costs of connection to the electricity network. They are not generally exposed to costs arising from increased congestion on the electricity network, the deep costs. As the congestion from embedded generation increases, the electricity distribution business will be exposed to increasing deep costs.

The uptake of embedded generation will become more apparent as the details of the CPRS are developed and implemented over the next few years. There is a risk to electricity distribution businesses in being able to predict this uptake and the resultant deep costs impacts for the price reviews. Ultimately any variation between the actual requirements and the regulator determined requirements is at the risk of the distributor.

16. How material are the risks associated with continuing with an "open access" regime in the NEM?

3.6.3 Gas Transmission

Jemena deals with the allocation of capacity on a commercial basis on its transmission pipelines today.

3.6.4 Electricity Distribution

The Commonwealth rebates for photovoltaic cells, the retailers Feed in Tariffs and the Victorian Governments proposed Premium Feed in Tariffs are all likely to lead to an increase in the installation of small scale generation. Jemena consider that there is a need to balance network safety, reliability and security with the capacity and characteristics of any embedded generator which seeks connection.

17. How material is the risks of "contractual congestion" in gas networks and how might they be managed?

3.6.5 Gas Transmission

Where there is congestion on a gas pipeline, the connecting party would need to pay for capacity augmentation. Jemena consider that this sends efficient price signals for efficient investment.

Aligned with our above sentiments, the STTM should provide additional information to the market on pipeline physical constraints and deliverability. We suggest that the STTM be implemented and allowed to operate in the market before considering the need for further intervention.

3.6.6 Gas Distribution

The Jemena network operates on a contract carriage model. Contractual congestion is not relevant as retailer's contract to the capacity required at their customers end point.

18. How material is the risk of inefficient investment in the shared network, and why?

No response

19. How material is the risk of changing loss factors year-on-year?

3.6.7 Electricity Distribution

The methodology for the calculation of loss factors is sound and has been used over a number of years. The methodology takes account of embedded generation. Even with a marked increase in embedded generation uptake over the next decade the variation in the loss factor from year to year is unlikely to be significant. We suggest that this be reviewed in the next decade after the uptake of embedded generation to determine if there is any need to vary the existing methodology.

3.7 Issue 7: Retailing

Changes in the level or volatility of costs faced by retailers, combined with ongoing price regulation, may reduce the effectiveness of retail competition.

20. How material is the risk of an efficient retailer not being able to recover its costs, and why?

3.7.1 Electricity and Gas Distribution

The AEMC notes that wholesale energy and prudential costs are likely to increase for retailers. The paper also notes that these costs have the potential to lead to retailer distress and exit from the market.

A number of cost increases are also expected for electricity and gas distribution networks:

- Increased costs of input goods arsing from suppliers offsetting their cost increases and costs of acquiring permits;
- Costs of managing the risks associated with the CPRS eg the unplanned emission of an SF_6 gas, forward carbon pricing; and
- Costs of establishing and managing permit acquisition within a gas network business.

Other sectors of the economy will be unconstrained in their ability to pass their cost increases onto consumers. A regulated network business should also be allowed to pass these costs onto retailers, further exacerbating the problems for retailers. Where retailers are subject to retail price caps, their ability to pass on the cost increases will be limited.

Jemena consider that it is important that retailers and distributors are treated consistently with other sectors of the economy and are allowed to pass on these cost increases.

Regulators need to be cognisant of these additional costs, risks and skills required of the network business and allow the costs to be passed through via an

appropriate regulatory mechanism. Some consideration should also be given to mechanisms other than a standard 5 year pricing approach eg annual pass through.

21. What factors will influence the availability and pricing of contracts in the short and medium term?

3.7.2 Gas Transmission

Gas transmission pipelines have long term contracts with their counterparties. Changes to regulations or policy settings that impact the costs of a pipeline business are not able to be easily factored into existing counterparty contracts. Jemena consider that regulatory and policy stability are important factors for pipeline businesses. Consistent with our position above, we do not consider that businesses that support long term contracts should be left isolated in the economy without the ability to pass on the costs arising from the CPRS.

3.7.3 Electricity and Gas Distribution

The regulatory environment also needs to allow for innovation of new products, including the flexibility for network businesses to establish more cost reflective pricing and to retire old tariffs which are not cost reflective, particularly those inherited from privatisation. The development of a clear and flexible tariff reassignment policy is a key aspect to providing customers with appropriate price signals based on their consumption patterns.

3.7.4 Flexibility for Retail Contracts

Jemena also supports the full removal of retail price regulation for both gas and electricity, to ensure that fully reflective costs and innovative pricing products are delivered to consumers. This is a prerequisite for the long term viability of new energy solutions such as renewables and gas fired cogeneration or air conditioning just to name a few.

22. How material are the risks of unnecessarily disruptive market exit, and why?

To date there have been one or two small retailers exit the market or undertake a timely trade sale to exit the market in electricity. Both of these events have impacted small numbers of customers and all participants in the process have been willing to assist.

Where a larger retailer, or a significant retailer operating across electricity and gas exits the market, the exit is likely to be far more disruptive to those involved in the transactional workload of a ROLR process.

Where stress in the financial markets has meant that a retailer has been unable to secure any necessary prudential increase, the risk of cascaded failure must be increased.

Retailers exiting the market have impacts on distribution and transmission businesses. Regulators need to recognise that these risks are increasing due to the counterparties risks increasing. Regulators need to allow for increased

counterparty risks as retail competition increases and margins are squeezed. Given that network and transmission businesses have limited counterparties and hence limited diversity of this risk. This is a non systemic risk which needs to be factored into the WACC.

3.8 Issue 8: Financing new energy investment

Climate change policies will require large investment in renewable and non-renewable generation capacity – and in energy networks. Current market settings may result in risks which increase the costs (or reduce the availability) of debt and equity finance.

23. What factors will affect the level of private investment required in response to climate change policies?

A three fold increase in generation capacity will need to be built over the next decade compared to the last decade. This is a significant challenge for investment funds and also in the ability to find the necessary skills and capability to deliver so much new generation capacity and infrastructure.

Regulatory clarity and stability, certainty of the detail and policy settings of the CPRS will be required for investors to analyse potential investment in generation capacity. Where the risks are too high or the rate of return insufficient then this could detract from investment.

24. What adjustments to market frameworks, if any, would be desirable to ensure this investment is forthcoming at least cost?

Jemena strongly support the value of regulatory certainty and predictability in relation to creating effective investment signals and encouraging investment. Given the extent of the infrastructure development, the tightness of the financial market and the current competition for funds, market frameworks and regulators will need to recognise that investments will only be made with commercial rates of return and stability of regulatory requirements. Where the regulatory risks and liabilities exceed the commercial return, this is unlikely to provide the effective investment signals sought.

There are a number of initiatives across the market to improve transparency of information and encourage investment in generation. Any further adjustments to the market frameworks should be undertaken in a cautious manner as these other initiatives are developed at the detail level and implemented.