Hon Lily D'Ambrosio MP

Minister for Energy, Environment and Climate Change
Minister for Suburban Development

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Mr John Pierce, AO
Chairman
Australian Energy Market Commission
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Ref: MBR036822

Dear Mr Pierce John

RULE CHANGE PROPOSALS FOR THE DECLARED WHOLESALE GAS MARKET REFORMS

Please find attached a package of proposals to amend the National Gas Rules to lower barriers to entry, streamline trading practices and improve transparency to help support greater competition in the Victorian gas market.

The proposed rule changes follow from the Australian Energy Market Commission's July 2017 report *Review of the Victorian declared wholesale gas market*, which identifies issues with the Victorian gas market pertaining to the limited risk management options, opaque longer-term pricing, limited market-driven investments and barriers to trading between gas markets. The proposed changes include:

- the introduction of a clean and simple wholesale gas price for the DWGM;
- establishing a forward trading exchange which will make it easier for buyers and sellers to trade gas and lock in a future price; and
- improving the allocation and trading of pipeline capacity rights.

Collectively, these changes aim to promote the trade of gas within Victoria and assist with putting downward pressure on gas prices. A more efficient Victorian gas market is also expected to help improve the reliability of electricity supply in both Victoria and other states, as gas-fired electricity generators will benefit from having better access to available gas supplies.

I would like to thank your organisation and the Australian Energy Market Operator for assistance with the development of these proposed changes.

If you would like to discuss the proposed rule changes, please contact Raif Sarcich, Principal Policy Officer, Energy Sector Reform, DELWP on (03) 9637 8122 or at raif.sarcich@delwp.vic.gov.au.

Thank you once again for your support in this important matter.

Yours sincerely

Hon Lily D'Ambrosio MP
Minister for Energy, Environment and Climate Change
Minister for Suburban Development

29 / 10 /2018

VICTORIA State Government

Rule change proposal – Forward trading market in the DWGM

(Recommendation 2)

Statement of Issues

The AEMC's Review of the Victorian Declared Wholesale Gas Market

The east coast Australian gas market is in a period of transition and adjustment. The shipment of Liquefied Natural Gas (LNG) from Gladstone in Queensland has created a connection to export markets that links Victoria to those prices and market dynamics. The export demand for LNG is expected to triple the size of the eastern Australian gas market by the end of 2018.[1]

The transition in the gas sector to an export linked market has coincided with the expiry of many domestic long-term gas supply agreements (GSAs). Because of these changes, market participants have now reduced ability in how they manage price risks in the in the Victorian Declared Wholesale Gas Market (DWGM or Victorian gas market).

On 4 March 2015, the Victorian Government requested the Australian Energy Market Commission (AEMC) to undertake, in collaboration with the Australian Energy Market Operator (AEMO), a review of pipeline capacity, investment, planning and risk management mechanisms in the DWGM. A key aim of the review was to examine whether improvements are required given the significant structural changes underway in the eastern Australian gas market.

In June 2017, the *Review of the Victorian Wholesale Gas Market* Final Report by the AEMC identified four issues that impede the effective functioning of the DWGM in the long-term interests of consumers:

- Limited risk management options
- Opaque longer-term pricing
- Limited market-driven investment in the Declared Transmission System
- Barriers to trading between markets.[2]

The AEMC made three key recommendations to address these issues. The recommendations were endorsed by the Victorian Government and the COAG Energy Council in 2017.

One of the recommendation by the AEMC was to establish a physical gas forward trading market (FTM) over the declared transmission system (DTS) while retaining the existing DWGM spot market. The current rule change proposal follows this recommendation.

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[1] The total eastern and south-eastern Australia forecast gas production is expected to be 1,891PJ compared to 642PJ of total domestic gas demand (including residential, commercial, industrial usage). The difference between the two is attributable to LNG export. The export of LNG export from Gladstone is about twice the eastern Australian domestic gas demand. AEMO, *Update to the gas statement of opportunities*, September 2017.

[2] AEMC, *Review of the Victorian Declared Wholesale Gas Market*, Final report, 30 June 2017, pp. v-vi.

Nature and scope of the problem

The DWGM was established by the Victorian Government in 1999 with the objective of supporting retail competition and to encourage diversity of supply and upstream competition. It integrates the following functions:

- trading of wholesale gas on the spot market;
- managing system-wide gas balancing; and
- managing gas flows on the DTS consistent with its physical capacity.

Facilitating access to both the transmission system and the wholesale market were of key importance in designing the market.[3] Also, an important consideration was to ensure that market participants could hedge against the spot market price exposure. Because of this consideration, the current DWGM market design allows bilateral agreements negotiated outside the DWGM to be used by market participants to hedge against price risk exposure in the spot market. That is, market participants with existing bilateral agreements (with a pre-agreed price) are not exposed to the spot market price risks as long as they inject/withdraw in line with their net position and they forecast their needs accurately.[4] Nevertheless charges and fees relating to system-wide balancing and managing gas flows consistent with the physical capacity of the DTS as well as any fees as a consequence of inaccurate forecasting (i.e. uplift charges, deviation payments) are applicable to these transactions in the same way as they may be applicable to transactions that are not 'backed' by bilateral agreements.

Recently, there has been a structural change in the market. More flexible and sophisticated means of managing gas portfolios are becoming increasingly important to market participants. Exposure to international LNG and oil prices has increased spot price volatility. Price volatility is likely to provide participants with commercial opportunities to arbitrage gas prices between trading markets on the east coast, or between their bilateral contract price and the spot price. It also makes it increasingly important that participants can manage the increased price risks on trading markets.

GSAs have a limited ability to fulfil the role of a flexible and sophisticated means of managing gas portfolios for the following reasons:

- GSAs are typically for relatively large quantities of gas and are less suitable for new entrants, smaller market participants, or a market participant who may only occasionally want to participate in the market

[3] In the 1990s an important backdrop to the DWGM market development was the National Competition Policy reform which included creation of Part IIIA of the Trade Practices Act which establishes a third-party access regime. The objective was to improve economic efficiency by introducing competitive forces into certain essential facilities which have been monopolised by one, or a very small number of owners. The introduction of the Part IIIA access regime provided for the declaration of the services provided by nationally significant infrastructure facilities. It only applies to the services of facilities that would not be economically feasible to duplicate and where the access arrangements would be necessary to promote effective competition in upstream or downstream markets. Both the transmission system (DTS) and the Victorian gas wholesale markets (DWGM) are declared infrastructures.

[4] The most typical bilateral agreements are long-term gas supply agreements (GSAs). Long-term GSAs are physical positions in that the counterparties agree to the delivery (and receipt) of gas at a future date at pre-agreed prices. GSAs are negotiated and settled off-market and are simply 'replicated' in the spot market by one of the parties (typically the retailer) placing both injection and withdrawal bids in the relevant trading periods. The net position of the market participant is zero. Currently long-term GSAs constitute approximately 80 per cent of total gas traded.

- GSAs struck with producers are becoming increasingly inflexible and have more restrictive terms and conditions (reduced flexibility). Increasing flexibility comes at a cost that may not be 'acceptable' to market participants
- GSAs are negotiated bilaterally and are by nature bespoke and this means that they are not readily tradable and are confidential
- Due to the tightening of the supply and demand balance, GSA contract prices have increased compared to historic levels.

Instead of long-term agreements, flexible short-term agreements are becoming more attractive means to manage gas portfolios. Market participants that are unable to secure a suitable agreement have no option but to bid directly into the spot market and be exposed to the spot price. While the current DWGM market design is compatible with off-market agreements (in the form of long-term and short-term bilateral agreements), it currently does not facilitate the negotiation of these agreements in the DWGM formally. These off-market agreements have the potential to fulfil an important role as hedging instruments against spot price volatility in the DWGM.

Without a formalised trading platform, the high search and transaction costs and the time required to negotiate short-term agreements may be prohibitive. Furthermore, trades outside the DWGM are bilaterally negotiated and are not reported, so do not reveal a transparent reference price. This in turn may be adding to high transaction costs, as market participants are unable to readily identify an appropriate price at which to trade gas.

Lack of mature financial hedging market

In mature markets, financial hedging is an alternative to taking physical positions. Financial hedges/positions allow counterparties to agree today to a financial transaction in the future based on the price of an underlying asset. As the value of the financial product is derived from the value of the underlying asset, these products are also called "derivatives". While a market participant may be physically out of balance and hence owe (or receive) money from the spot market, their total financial exposure is hedged through this additional financial transaction.

However, a financial derivatives market has not emerged spontaneously as a side market to the DWGM. While the Australian Securities Exchange (ASX) has released several such products, no material trading in them has developed. Due to different physical characteristics of gas compared to electricity, the design of the DWGM spot market is considerably more complex than the NEM spot market. This complexity has not been conducive to the development of a financial derivatives market. In particular:

- To fully manage commodity risk, a financial derivative contract for the DWGM would need to be settled based on an individual market participant's exposure (through both imbalance payments and deviation payments) to the 6AM and intra-day prices. This is because the financial transfers are no longer dependent on movements in a single benchmark price (the 6AM price), but also an individual participant's exposure to each of the pricing intervals throughout the day
- Financial derivative products based on the daily and/or intra-day market prices do not hedge against residual price risk arising from uplift payments. While congestion uplift can be hedged by holding AMDQ rights, this protection only exists when a market participant is injecting gas, and hence is not available to parties solely consuming gas.

Description of the proposed rule

This rule change request proposes to make changes to the National Gas Rules (NGR) to implement a forward trading market (FTM) for the DWGM. Gas Trading Exchanges (also known as Gas Supply Hubs, or GSHs) established in Part 22 of the NGR already provide a platform for forward trading of standardised gas products for the East Coast Gas Market at the Moomba and Wallumbilla hubs. It is proposed that trades in the FTM would closely follow the arrangements outlined in Part 22 and would be settled similar to the current GSH settlement arrangements.

The following changes to the NGR are proposed:

- DWGM gas products traded on the FTM are to be for delivery and receipt of gas on the DTS
- Require market participants to submit a bid (or forecast) to the DWGM to reflect their net forward position
- FTM trades are to be considered in the DWGM settlement calculations so that they are not settled twice
- Variance between traded and scheduled quantities for forward products are settled in the DWGM at the 6 AM DWGM price on the gas delivery day specified in the DWGM forward product
- Settlement and prudential methodology to address requirements as a result of the FTM (e.g. the treatment of delivery variances for these products)
- Potential changes to the minimum content of exchange agreement and the products to be traded at the FTM
- Potential changes in relation to market participation, market conduct, trading and information provisioning.

Overview of the proposed DWGM forward trading market

A DWGM FTM would enable market participants to trade gas ahead of the gas day. Forward trading could allow market participants to secure a price for their gas without being exposed to prices in the spot market, aiding their ability to manage risk.

It is proposed that a DWGM FTM be established, new products be listed on the FTM, and the FTM be integrated with the DWGM settlement processes. These new products would be for delivery of gas into the DTS similar to the existing products for delivery of gas at Wallumbilla and Moomba hubs.

Market participants would be free to continue to source some or all their gas:

- Outside of the DWGM or FTM, for example through long-term GSAs, and offering this gas into the DWGM to gain access to the DTS on the day
- Through the DWGM spot market.

The FTM would provide an optional additional avenue by enabling participants to agree in advance to a price for a quantity of gas and delivery date(s). Products with a range of suitable tenures could be developed (daily, weekly, monthly, seasonal) and participants could enter multiple forward

trades in the lead up to the gas day to adjust their position.[5] The price for trades would be agreed to ahead of the gas day via the FTM. Buying and selling gas through these products will create a net obligation to deliver or receive an agreed amount of gas to the DTS on the dates specified in the trading product – this is referred to as the net forward position. Market participants will either need to submit a bid (or forecast) to the DWGM to reflect their net forward. This requirement reflects an obligation that there is an arrangement for the physical delivery of gas traded on the FTM.[6] There are different ways how a market participant may meet its obligation to deliver or receive gas and these are further discussed below.

FTM Settlement

Settlement of forward trades

Forward trades undertaken in the FTM will be settled similarly to the trades settled in the existing GSHs.[7] However, forward trades in the FTM will also need to be accounted for in DWGM settlement so that they are not settled twice.

For example, a participant who has a net buy position of 10 TJ of gas for the gas day at a price of $5/GJ would be settled for $50,000 in the FTM settlement. The participant would then bid to withdraw 10 TJ on the gas day from the DWGM. The DWGM's settlement calculations would need to be adjusted to reflect that this 10 TJ was traded and settled ahead of time in the FTM and does not need to be settled through the DWGM. If the participant withdraws 10 TJ of gas (in accordance with its forward market trade) its settlement exposure to the DWGM would be $0 while its settlement exposure to the FTM would be -$50,000.

Settlement of delivery variances

If a participant does not inject or withdraw gas in accordance with its forward market obligations then the DWGM would schedule the net forward position (shortfall/surplus quantity) as per the standard scheduling arrangements at the 6AM schedule. For settlement purposes, the net forward position (shortfall/surplus quantity) would be treated similar to how *delivery variances* are treated for the participant under the GSH Exchange Agreement. It is proposed that the delivery variance would be automatically settled at the 6AM DWGM price on the day that the delivery variance occurred. It is proposed that the settlement of delivery variances occurs as part of DWGM settlement while (as discussed above) the settlement of forward trades occurs as part of FTM settlement.[8]

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5 Unlike in the existing GSHs, participants would not be able to trade on the day through the FTM; there would be no 'balance of day' product. Instead, on the day trades would continue to be made through the daily and intra-day DWGM process.

6 AEMO is currently exempt from holding an Australian Financial Services License for operating the GSHs. To satisfy the exemption conditions, there needs to be an "arrangement" for the physical delivery of gas traded via the proposed FTM.

7 Given that the DWGM products and trades that would be similar to the ones currently taking place in the GSHs, there is likely to be benefits from using existing settlement processes and trading systems such as the Trayport. Trayport includes, for example, a front-end for direct trader access to the exchange; a real-time matching engine to form transactions; and order management and transaction reporting.

8 The AEMC in its 2017 *Review of the Victorian Declared Wholesale Gas Market Final Report* pp.47-49 provided an example how the settlement of delivery variances may be calculated and settled in the DWGM. A reformulated version of the equations are replicated here for convenience.

Re-using the previous example where a participant buys 10 TJ of gas on the FTM for $5/GJ, if the participant is only scheduled to withdraw 5 TJ this would result in a delivery variance of positive 5 TJ (a surplus). In effect the FTM buyer has had 10 TJ delivered by the FTM seller but has only used 5 TJ. The DWGM will be used to automatically sell the buyer's positive delivery variance at the 6AM market price. Say the 6 AM price on the gas day is $2/GJ, the participant would receive a delivery variance payment of $10,000 ($2 x 5 TJ). Its settlement exposure to the FTM would be -$50,000 (a charge) and its settlement exposure to the DWGM would be +$10,000 (a payment).

The 6AM DWGM price is proposed to be used as the settlement price for delivery variances because this price reflects the actual value of gas that was not delivered or received at that point in time. The 6AM price is also the price that will be paid by the market to schedule gas to cover a shortfall or surplus caused by a delivery variance on a forward trade. Under this approach, participants will be exposed to the DWGM price for delivery variances. In order to manage this risk, participants will need to ensure that they bid and are scheduled in accordance with their FTM obligations.

Using the DWGM 6AM price will be a change from the framework that currently exists for non-delivery and delivery variances for GSH products. Under the current framework for GSH, a confirmed delivery variance quantity is settled in accordance with a formula in the GSH Settlements and Prudential Methodology and the average price for the gas day is used. A change to the GSH delivery variance settlement mechanism for products that trade on the DTS is required due to the different market arrangements that are in place for the DTS. It is proposed that the current delivery variance settlement methodology be retained for existing (non-DTS) gas supply hub products.

Costs and benefits of the proposed rule

Improvements to forward trading through the facilitation of shorter term trades is expected to give DWGM participants more options to manage price risk and hedge their positions ahead of the gas day. To manage price risk participants would be able to enter trades ahead of the gas day through a voluntary exchange.

Exchange trades would be transparent, which would allow the development of a forward reference price for gas at the southern hub. GSAs and secondary trades are currently carried out bilaterally and are not transparently reported to the market. Over time, participants would be able to use a transparent reference price as the basis for a variety of operational, production and consumption investment decisions.

Not having a FTM may have been discouraging new entrants outside the DWGM who may only occasionally want to participate in the market. Being able to trade standardized products up to a day ahead may attract potential market participants that are currently discouraged by the risk involved in trading on the spot market.

Settlement of delivery variance <<settled in DWGM>> = (scheduled imbalance - net forward position) x market price at 6AM. (In line with the definition provided in the NGR, scheduled imbalance is the difference between scheduled withdrawals and scheduled injections.)
Settlement of forward trade <<settled in the FTM>> = net forward position x forward trade price.

[9] AEMC, *Review of the Victorian declared wholesale gas market*, Final report, 30 June 2017, p. 46

The DWGM FTM may encourage greater levels of trade across jurisdictions. Products could be developed across locations, such as spread products and swap products, which may also encourage greater levels of inter-jurisdictional trade.

Having greater consistency across trading markets in the east coast will help to reduce the complexity and costs that may currently discourage greater participation in the DWGM. It may result in gas being transported more easily between regions to where it is most valued. A fully integrated east coast gas market will provide buyers and sellers with greater opportunity to participate in any of the trading markets to improve their commercial outcomes.

Allowing existing and new participants to better manage risk is expected to place a downward pressure on the costs of providing and using gas. To the extent that this reduces costs for market participants, these cost savings can be passed onto consumers.

A formal market for standardised short-term products will reduce search and transaction costs and the cost of managing counterparty risk. Trading on the FTM is also anonymous which may further improve liquidity.

Whilst the FTM creates another optional avenue for participants to manage their commodity requirements/risk, it is important to note that the FTM does not fully overcome the complexities involved in hedging all price risks in the DWGM. This approach only hedges market participants against a component of their total wholesale gas purchase costs in the DWGM - that related to the market price which is paid in the event that their injections do not match their withdrawals. Market participants which are in balance (injecting and withdrawing the same amount to the DTS) do not face an imbalance payment at the market price but may nevertheless be exposed to uplift charges.

The establishment of the FTM will inevitably require some changes to the DWGM system. Therefore, it is expected that AEMO and market participants will incur costs in setting up the market. The DWGM FTM is likely to be closely aligned with the GSHs already operating at Wallumbilla and Moomba. Therefore, there are likely to be costs savings from replicating some of the procedures and exchange platforms that have already been established for these markets. The use of a common trading platform, such as Trayport, could provide a significant degree of consistency between the DWGM FTM and forward markets at other trading locations across the east coast.

Overall, a more efficient Victorian gas market, in the context of an east coast gas market, is likely to be of key importance for the electricity sector given the use of gas as a generation fuel.

National Gas Objective

This rule change is expected to help achieve the National Gas Objective, set out in the National Gas Law as follows:

"The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas."

The forward trading market particularly contributes to remedying the problems of limited risk management options and is expected to contribute toward providing for less opaque long-term pricing, a reduction in barriers to entry and participation in the DWGM, and a reduction in barriers to

trading between the DWGM and other east coast markets. The AEMC in its report sets out the rationale for the FTM as being:

"To address the high transaction costs in the forward physical market, and to increase price transparency in that market."[9]

To this end, the FTM would have the following specific benefits:

- It would provide market participants with a direct and market-based means to manage price risk, by entering into firm prices for gas trades prior to the market being cleared on the gas day
- Exchange trades would be transparent, which would allow the development of a forward price for gas at the southern hub
- Use of a common trading platform would provide a significant degree of consistency between the DWGM FTM and forward markets at other trading locations across the east coast which should encourage greater levels of trade across jurisdictions and
- Reduced barriers to entry.[10]

These effects provide the overriding consumer benefits associated with the FTM. The ability to manage price risk is central to the ability of retailers to offer competitively priced gas to end-use consumers in Victoria. The DWGM underpins retail competition in the great majority of the state. Insufficient risk management means that consumers may face an excessive risk premium built into their tariffs by retailers who must self-insure against DWGM price risk, or may deter retailer entry and expansion, to the detriment of competition and – ultimately – consumer prices.

The development of a forward price for gas is important for the generation of robust information for the market. Information derived from the price-discovering function of markets informs long-term business strategies and investments by a wide range of interested parties – retailers, gas producers, gas pipelines, and gas consumers. Aligning the decision making of these parties through transparent long-term pricing can improve the efficiency with which capital is invested in the gas industry, and in the economy at large, to the benefit of consumers.

The Victorian gas market is only one part of a broader eastern gas market, in which multiple production zones with multiple producers exist and in principle, should be able to compete for customers throughout the market. Barriers to trade, however, are acknowledged to exist by the AEMC's East Coast Gas Market Review[11]. Where barriers exist, the ability of producers in other states to compete for customers in Victoria and vice versa reduce competition to the detriment of consumers.

Therefore, it is primarily price benefits that are expected to flow to consumers as a result of the FTM. To the extent that efficient markets can effectively signal the need for long-term investment and achieve efficient short-term allocation of resources within the market, these reforms may also help preclude the development of situations where the reliability or security of gas supply is imperilled. The FTM is not expected to have any effect, positive or negative, on the quality or safety of gas supply.

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9 AEMC, *Review of the Victorian declared wholesale gas market*, Final report, 30 June 2017, p. 46

10 AEMC, *Review of the Victorian declared wholesale gas market*, Final report, 30 June 2017, p. 50

11 AEMC, *East Coast Wholesale Gas Markets and Pipeline Frameworks Review*, Stage 2 Final Report, 23 May 2016

The FTM would allow for those parties who already bear (appropriately) the risks associated with trading gas to manage those risks more effectively. Finally, the alignment of the FTM with the other markets operated by AEMO, and the presumptive use of common systems and procedures through AEMO means that there will be considerable flexibility for the FTM to grow and adapt as the market develops.

Finally, the proposed FTM will assist in contributing to the further development of the east coast gas market more broadly, which is guided by the COAG Energy Council's gas market vision statement[12] and the reform "target model" set out by the AEMC in its *Review of the Victorian Declared Wholesale Gas Market.*

The target pathway proposes a consolidation of wholesale gas trading around two major trading hubs in Queensland (Wallumbilla GSH) and Victoria (a further reformed DWGM with a continuous trading model and entry and exit rights for capacity). This is a longer-term reform project but continues to inform the gas market reform program of the COAG Energy Council.

The FTM, as part of the suite of measures proposed by the AEMC in the DWGM Review, is consistent with development of the DWGM toward the target model. It provides for more open trading of gas on various timescales within the DWGM, it provides for a degree of ex-ante price discovery within the DWGM, and this may help the market develop its capacity to provide for more 'hub' style operation.

[12] AEMC, *Review of the Victorian Declared Wholesale Gas Market*, Final report, 30 June 2017, Appendix B.3, p. 94