AEMC

DETERMINATION

Australian Energy Market Commission

DRAFT RULE DETERMINATION

NATIONAL GAS AMENDMENT (DWGM FORWARD TRADING MARKET) RULE 2019

Victorian Minister for Energy, Environment, and Climate Change

4 JULY 2019

INQUIRIES

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ABOUT THE AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

SUMMARY

1 On 5 November 2018, the Victorian Minister for Energy, Environment and Climate Change submitted a rule change request to the Australian Energy Market Commission (AEMC or Commission) in relation to the introduction of a forward trading market (FTM) in the Victorian declared wholesale gas market (DWGM).

2 The Commission has decided not to make a draft rule. While the Commission recognises the potential benefits of a forward trading market it is not convinced that, on balance, the proposal satisfies the National Gas Objective (NGO).

Details of the rule change request

3 The rule change request proposed the introduction of a voluntary market operated by the Australian Energy Market Operator (AEMO). The market would:

- facilitate the trading of forward contracts for gas
- be based broadly off the design of the gas supply hubs currently operating in Wallumbilla and Moomba
- operate on the Trayport platform used by the gas supply hubs (GSH) and the pipeline capacity trading platform
- offer a range of contract tenures (e.g. daily, weekly, monthly)
- settle any variances between traded and scheduled quantities at the 6 am DWGM price on the gas delivery day specified in the forward product.

4 The rule change proposal is based on a recommendation from the AEMC's 2017 *Review of the Victorian declared wholesale gas market* (the 2017 Review) as a way to improve spot price risk management for market participants.

Risk management in the DWGM

5 There are currently several options for market participants to manage spot price risk in the DWGM including:

- purchasing bilaterally negotiated contracts such as gas supply agreements (GSAs) and over-the-counter (OTC) contracts
- using financial products on the Australian securities exchange (ASX) — currently quarterly and annual swaps
- trading physical gas through line-pack accounts at trade-points just outside the declared transmission system (DTS).

6 At the time of the 2017 Review, there were effectively no trades occurring on ASX Victorian gas products, participants suggested the Victorian OTC and GSA markets were difficult for participants to trade, and there were minimal trades at the trade-points outside the DTS. Since then:

- there has been an increase in trades on the ASX, and the ASX is intending to introduce a market maker for its Victorian gas products

- several brokers have entered the Victorian gas market in the past year, assisting in building trades on the OTC market and at the trade-points
- there is slightly more information on gas prices in the market from public ASX figures, ACCC gas inquiry interim reports and, at a cost, through brokers.

7 The rule change proposal suggests that the FTM would operate alongside these products and processes.

Why consider introducing an FTM?

8 In the current environment, although the FTM has the potential to introduce some smaller efficiencies, these are likely to be smaller in scale compared to the time of the 2017 Review. The FTM may create benefits for the market including additional transparency, integration with AEMO systems and markets, and increased flexibility. However, the potential for these benefits to be realised, is solely dependent on the sufficient utilisation of the voluntary market.

9 As an open exchange, the FTM with liquid trading could reduce some search costs for participants by allowing parties that want to buy and sell gas to connect through a straight forward mechanism. The standardised contracts could reduce transaction costs for participants through avoided negotiation. A published price could allow participants to build a short term forward curve and improve operational decisions making. Most of these efficiency gains would be likely to be more significant for new or small participants, that do not necessarily have the resources or experience to avoid these issues. Larger more sophisticated and experienced participants would likely have established trading relationships, and more information gained from their own trades and brokerage services. A recent joint report from the Australian Competition and Consumer Commission and Gas Market Reform Group has separately recommended GSAs of a tenure less than 12 months be reported on the Gas Bulletin Board, which could have a larger effect on improving transparency of short term gas contracts.

10 The efficiencies from integrating with AEMO systems are greatest for participants that are active in both the DWGM and other east coast gas markets. Hosting both the GSH and FTM on the same platform could enable the development of spread products between the northern (Wallumbilla and Moomba) and southern (Victoria) gas hubs. However, these spread products can be developed currently using the ASX or OTC contracts. Using the same prudential mechanism between the GSH and FTM could also create some efficiencies for those participants purchasing gas in Wallumbilla and selling in the DWGM as both trades would be accounted for when calculating prudentials. Finally, the FTM could avoid some red tape currently incurred by participants trading OTC contracts that need to undertake the sub-allocation process. This is a lengthy process required when trading gas at a single injection point requiring the trade to be registered with AEMO, however avoiding this process is unlikely to result in significant cost savings that would be passed onto consumers.

11 Finally, as a virtual hub, the FTM could create some efficiencies by allowing additional flexibility for participants to purchase gas at the lowest cost injection point, unlike trade-points which are geographically specific. However, participants can currently get around this issue by establishing accounts at each trade-point, although this does split liquidity across the

various trade-points. Additionally, participants could use the FTM to on-sell unused gas purchased under a GSA, and hedge risk around take-or-pay conditions of these contracts.

Is the FTM likely to produce a net benefit?

12 While there are several potential benefits, as outlined above, the relative size of these benefits and the degree to which these benefits create cost savings that will eventually flow through to retail gas prices for consumers is likely to be small. The benefits that derived from the FTM are likely to be relatively peripheral considering broader changes occurring in the market.

13 Further, for any net benefit to be realised, the scale of benefits and level of participation needs to be sufficient to outweigh the implementation costs.

14 The introduction of the FTM will create costs. AEMO will need to update its IT systems, including modifying Trayport to list new products, modifying settlement, prudential and reporting systems currently used for the GSH, and modifying DWGM settlement processes to incorporate FTM trade and settle variances. Further, participants will also need to update their internal strategies, systems and processes.

15 The potential level of participation in the market is also unknown. Discussions with market participants suggest that, on-balance, the demand for an additional spot-price risk management market is not overwhelming. If stated demand does not translate into revealed demand, the market will create a cost that will be ultimately borne by consumers.

16 Further, the Commission is reluctant to intervene to create a market where there is not a clear case of market failure. Industry has developed and trading has increased on similar services such as trade-points and brokerage services for OTC contracts. While an AEMO-operated FTM may have some efficiency benefits over these existing markets, it also involves a transfer of risk from shareholders in privately operated markets to AEMO and ultimately to end consumers in the event the market is not utilised.

17 Having regard to the issues raised in the rule change request and during consultation, the Commission is not satisfied that, in the current environment, the proposed rule will, or is likely to, contribute to the achievement of the NGO, as the benefits are not well enough established to justify the costs of creating the market.

18 Accordingly, the Commission's draft rule determination is to not make a rule.

Submissions

19 The Commission invites public submissions on this draft rule determination by 22 August 2019.

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1 VICTORIAN MINISTER FOR ENERGY, ENVIRONMENT AND CLIMATE CHANGE'S RULE CHANGE REQUEST

1.1 The rule change request

On 12 November 2018, the Victorian Minister for Energy, Environment and Climate Change (the proponent) made a request to the Australian Energy Market Commission (AEMC or Commission) to make a rule regarding the establishment of a forward trading market to operate in the Victorian Declared Wholesale Gas Market (DWGM).

This rule change request was developed following a recommendation in the final report of the AEMC's 2017 *Review of the Victorian declared wholesale gas market* (referred to as the 2017 Review).[1] An overview of the DWGM and the 2017 Review is provided in the *Victorian Declared Wholesale Gas Market Background Paper*.[2] The purpose of the 2017 Review was to consider whether the market structure remained fit for purpose, including whether it:

- continued to provide appropriate signals and incentives for investment in pipeline capacity
- allowed market participants to effectively manage price and volume risk
- facilitated the efficient trade of gas to and from adjacent markets
- facilitated upstream and downstream competition.

The report concluded that the DWGM was not likely to meet the above objectives and that features of the existing market could be inhibiting the development of a liquid eastern Australian gas market. Through this report, the Commission made three recommendations:

1. to provide a cleaner wholesale market price
2. to establish a forward trading market exchange over the DTS
3. to improve the AMDQ regime.

This rule change request was submitted in response to the second of these recommendations.

1.2 Background and current arrangements

The DWGM operates as a gross pool wholesale market, similar to the national electricity market (NEM), where all gas traded over the Declared Transmission System (DTS) is cleared.

However, unlike in the NEM, the DWGM is two-sided, with sellers offering[3] gas, and buyers either forecasting their demand (for uncontrollable withdrawals) or bidding (for controllable withdrawals).[4] Commonly, a participant contracts for gas outside of the DWGM, and so tends

1 AEMC 2017, Review of the Victorian declared wholesale gas market, Final report, 30 June 2017, Sydney.

2 AEMC, Victorian DWGM Background Paper, Information paper, 14 March 2019.

3 Technically injectors in the DWGM make 'injection bids' which are actually offers, and 'withdrawal bids' which are actually bids in plain English. This consultation paper uses the plain English definitions.

4 While demand-side participants can bid into the NEM, it is uncommon as these participants need to be scheduled. In the DWGM, forecast demand is submitted by market participants to AEMO as part of the market clearing process.

to bid and offer gas at the market price cap and market floor price respectively, attempting to 'buy' its own gas from itself via the gross pool mechanism. When this occurs, the participant has a net position of zero (i.e. it is not net buying from or selling to the market). As a result, it is not exposed to the DWGM market price. This pre-contracted part of the market represents around 80 per cent of traded volumes in the DWGM. The remaining 20 per cent of the market is actively traded through the DWGM itself, and is where the visible price volatility in the market translates to participants.[5]

1.2.1 Risk management tools

There are currently two physical tools and one financial tool used by participants to manage price risk in the DWGM:

- Gas Supply Agreements (GSAs) made between producers and shippers for the physical delivery of gas outside of the DTS/DWGM
- off-market secondary gas contracts made between participants, for the physical delivery of gas outside of the DTS/DWGM
- Australian Securities Exchange (ASX) futures, which are financial derivatives.

Each tool has different characteristics, with GSAs and secondary contracts hedging price risk to create the passive (80 per cent), while future contracts may be used in the active (20 per cent) parts of the DWGM. This section explores the characteristics of each of these three price risk management tools. The benefits and drawbacks of each tool are summarised below in Table 1.1.

Table 1.1: Existing gas price risk management tools in the DWGM

TOOL	BENEFITS	DRAWBACKS
GSAs	• Long-term price security	• Typically inflexible • Limited visibility of prices • High search and transaction costs
Off-market secondary gas contracts	• Shorter term flexible products	• Limited visibility of prices • High search and transaction costs • Potential issues around counterparty risk
ASX futures	• Visibility of prices • Shorter term flexible products	• Limited liquidity in the market • Transaction costs (for e.g. margining requirements) which can be prohibitive for smaller participants • Prudentials cannot be integrated with non-ASX markets (for e.g. the Gas Supply

5 AEMC 2017, Review of the Victorian declared wholesale gas market, Final report, 30 June 2017, Sydney, p. 14.

TOOL	BENEFITS	DRAWBACKS
		Hubs)

Additionally, the effectiveness of these tools may be affected by the other non-price risks that participants face in the market, notably:

- delivery risk—even if a participant has a GSA, they may be unable to inject into the DTS due to tied bids and limited pipeline capacity
- uplift and ancillary payments—a participant could fully hedge against the DWGM spot price, but then incur significant uplift charges from a surprise event.

These risks are discussed further in the *Simpler wholesale price* and *Improvement to the AMDQ regime* rule changes.[6]

Gas Supply Agreements

Historically, the majority of natural gas in Victoria has been traded through long-term bilateral GSAs. These contracts have traditionally covered periods of 10 to 20 years in order to underwrite investments in capital intensive, long-lived assets. However, recently it is more common for these contracts to have a shorter tenure, such as three years. These GSAs largely make up the passive part of the DWGM gross market,[7] and are generally take-or-pay contracts.[8]

Gas supplied under long-term GSAs was historically priced using a cost-plus formula, in which the contract price paid for gas by users was calculated based on the cost of production and escalated with inflation.[9] However, between 2014 and 2016 gas demand on the east coast increased three-fold, largely driven by the commencement of an LNG export industry in Queensland.[10] Further, this period of volatility coincided with the expiry of many domestic long-term GSAs.[11] Additionally, there had been minimal visibility of GSA prices and availability, however recently:

- the Australian Government directed the ACCC to conduct an ongoing inquiry into the east coast gas markets from 2017 to 2020, and through its information gathering powers, the ACCC has begun publishing some price data on GSAs
- the ABS has published a domestic gas price index for the east coast.[12]

Secondary trading of gas contracts

6 The Simpler wholesale price and Improvement to the AMDQ regime rule changes are available on the AEMC website at https://www.aemc.gov.au/rule-changes/dwgm-simpler-wholesale-price and https://www.aemc.gov.au/rule-changes/dwgm-improvement-amdq-regime

7 As noted above, gas bought through long-term GSAs which are bid/offered at the market price cap/floor in order that gas physically delivered outside of the market can get access to the DTS for delivery inside the DTS.

8 Under a take-or-pay contract, the recipient either takes the product from the supplier or pays the supplier a penalty.

9 ACCC, Inquiry into the east coast gas market, April 2016, p. 29.

10 AEMO, National gas forecasting report, 2015.

11 Department of Industry, Innovation and Science, Gas Market Report 2015, p. 40.

12 See ABS series 6427.0, Table 36.

As noted above, GSAs have set conditions such as the take-or-pay, and any changes have to be bilaterally negotiated between parties. If a participant does not wish to consume all the gas they have contracted for on a gas day, they can either sell the surplus gas on the DWGM daily spot market or on-sell the unutilised gas through a shorter-term, bilateral gas contract. These secondary gas contracts play an important role in the market, namely they:

- provide flexibility to participants with existing GSA contracts
- enable smaller participants that do not wish to enter into a long-term GSA to hedge against price fluctuations on the spot market.

However, feedback received during the 2017 Review suggested these contracts are quite bespoke and trade in these secondary gas contracts was limited.[13] This could be due to the high search and transaction costs of these contracts, or the potential for higher counterparty risk on these contracts.

Financial products on the ASX

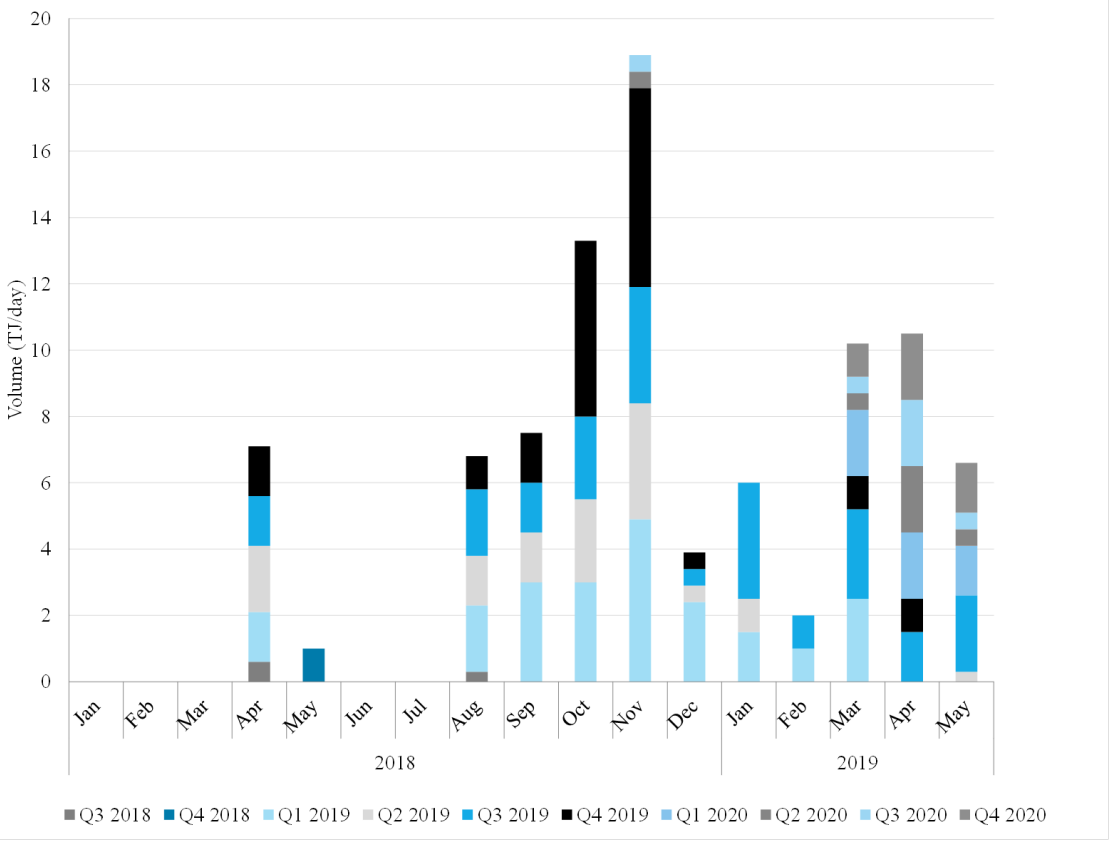
The tools discussed above provide a means of participants managing risk through physical products. Financial hedges by comparison allow counterparties to agree today to a fixed price for a financial transaction in the future based on the price of an underlying asset or commodity, such as the DWGM market price. As the value of the financial product is *derived* from the value of the underlying asset, these products are called 'derivatives'. While a market participant may be physically out of balance (a net seller/buyer in the DWGM) and hence owe money to/receive money from the DWGM spot market, their spot price exposure is hedged through this financial instrument. Similar to the DWGM, the NEM is a spot market for wholesale trading of electricity. An active financial derivatives market has emerged as a 'side market' to the NEM, which provides market participants considerable flexibility in the way they manage spot market price risk.

The ASX offer both quarterly and yearly ('strip') products for Victorian Gas. While these products have been listed for several years, no material trade occurred on these products until 2018. Between 1 May 2018 and 10 June 2019, 977 quarterly and 110 strip contracts were traded, amounting to approximately 1300 TJ of gas.[14] Figure 1.1 shows the volume of trade in ASX quarterly products between January 2018 and May 2019.

13 AEMC 2017, Review of the Victorian Declared Wholesale Gas Market, Final Report, p. 23.

14 AEMC analysis based on ASX data between 1 January 2018 and 10 June 2019.

Figure 1.1: Trades of ASX Victorian quarterly gas products



Source: AEMC analysis of ASX Energy data.

Note: Monthly sum of trade in ASX quarterly products between 1/1/2018 – 31/5/2019. Excludes a small quantity of trades for Q2 2018 products (equivalent to 0.4TJ/day).

In the scale of the DWGM, which has daily consumption of around 645TJ,[15] this emerging derivative trading makes up around three per cent of demand,[16] which could either be a sign that the Victorian gas futures are maturing or could be a temporary change. Open interest in the market has also increased considerably, and the bid-ask spreads have notably reduced.[17]

In-Pipe trading points

APA operates linepack trading markets through its In-Pipe Trade service for the trade of gas received or stored on its pipelines outside the DTS, for example the Culcairn Trade Point Delivery Stream located at the connection point with the DTS.[18] The service allows a buyer

15 Estimated withdrawals calculated as average daily withdrawals for 12 months to 11/2/2019 based on AEMO data.

16 The first contract with significant trade was 2019 Q1, assuming demand in Q1 2019 is similar to Q1 2018, traded quarterlies and strips make up around 3.6 per cent of demand.

17 ACCC, Gas Inquiry 2017-2020, Interim report December 2018, p. 97.

18 A schematic of the Moomba to Sydney Pipeline and associated trade-points is provided on APA's website:https://www.apa.com.au/globalassets/documents/info/schematic/msp-schematic.pdf

and seller of gas to manage the receipt and delivery of this gas at virtual receipt and delivery points on the pipeline. This provides shippers with flexibility in sourcing gas on a short- or long-term basis and enables easier management of gas account balances.

To access the trading service, participants are required to have a Gas Transportation Agreement with APA Group that includes the In-Pipe Trade service provisions.[19] The service is voluntary with sellers paying a per-GJ cost for the service.

1.2.2 East coast gas markets

Outside of the DTS, there are several facilitated gas commodity and pipeline capacity markets that operate on the East Coast of Australia. These include the:

- Gas Supply Hubs
- Pipeline Capacity Trading Market
- Short Term Trading Markets.

Unlike the DTS, the rest of the gas markets on the east coast operate on a contract carriage basis, by which contracts are used by shippers to establish rights to transport gas through each pipeline.

Gas Supply Hubs

The Gas Supply Hubs (GSHs) are a gas trading exchange for trading natural gas and related services including a pipeline capacity listing service. There are two GSHs operating on the east coast, one at Wallumbilla established in March 2014 and one at Moomba established in June 2016. The GSH operates a voluntary net-pool trading exchange, through which participants can trade standardised short-term physical gas products on an electronic platform called Trayport. AEMO centrally settles transactions on Trayport, manages prudential requirements and produces reports which assist participants in managing their portfolio and gas delivery obligations. Participants are responsible for the delivery of gas traded to the location of the hub. The Wallumbilla hub consists of three foundation pipelines — Roma-Brisbane, South West Queensland, and Queensland Gas Pipeline — and the Moomba hub has two foundation pipelines — Moomba to Adelaide, and Moomba to Sydney.

The GSHs list the following products:

- balance-of-day
- day-ahead
- daily
- weekly
- monthly.

Currently, the two hubs have different levels of liquidity. The Moomba exchange has had very low levels of trading until May 2019, whereas the Wallumbilla exchange is actively used by

19 For more information on In-Pipe Trading, see the factsheet on APA's website: http://capacitytrading.apa.com.au/APA%20In-pipe%20Trade%20Fact%20Sheet.pdf

participants over the past few years.[20] Figure 1.2 shows the increase in trading on the GSH which has been driven mostly by off-market trades, i.e. trades that have been bilaterally negotiated rather than matched through the centralised exchange.

Figure 1.2: Gas supply hub traded volumes

Source: AEMO, Quarterly Energy Dynamics — Q1 2019, p. 29.

The Wallumbilla GSH project was approved by AEMO's board at an expected cost of $1.7 million in December 2012, with expected ongoing costs of $570,000 per year.[21] There were several projects post-implementation including the implementation of Moomba trading locations and the Wallumbilla single product which increased capital and operating expenditure. In its design report for the Wallumbilla GSH, AEMO states that it plans to recover the cost of establishing the Wallumbilla GSH from participants over a five-year period.[22] These costs were to be recovered through fixed and variable charges paid by participants trading (and viewing) the GSH. The current Trayport licence fee for participants to trade on the GSH is $12,000 per year with an additional fee of $0.01 — $0.03/GJ depending on which product is being traded.[23]

In its 2018 Annual Report, AEMO lists a $5 million accumulated deficit attributed to the Gas Supply Hub, which would include any expenditure on establishing the Moomba GSH and the Wallumbilla single hub product.[24]

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20 In June 2018, the AEMC released its *Biennial review into liquidity in wholesale gas and pipeline trading markets*, which examines liquidity on the GSHs, DWGM and Short Term Trading Markets in greater detail using both quantitative and qualitative metrics. Between June 2016 and May 2019 there had been 4 exchange traded trades and 11 off market trades on the Moomba GSH, however trading has increased considerably since then.

21 For implementation costs see AEMO's Consolidated Final Budget and Fees 2014-15, p. 19. Ongoing annual costs are from AEMO's Detailed Design for a Gas Supply Hub at Wallumbilla, p. 26.

22 See AEMO's Detailed Design for a Gas Supply Hub at Wallumbilla, p. 28.

23 See AEMO's Energy Market Budget and Fees for more details: https://www.aemo.com.au/About-AEMO/Energy-market-budget-and-fees

24 See AEMO's Annual Report 2018, p. 74.

Pipeline capacity trading

The pipeline capacity trading reform package was implemented on 1 March 2019 to enable participants to obtain more flexible and competitive pipeline capacity by developing a market for secondary trading of pipeline capacity.

The reform package included:

- the introduction of a day-ahead auction of contracted, but unnominated pipeline capacity to be conducted shortly after nomination cut-off
- standardised provisions in capacity agreements to make capacity more fungible and allow shippers greater receipt and delivery point flexibility
- the development of a pipeline capacity trading platform (CTP) through which shippers could trade secondary capacity ahead of the auction
- the requirement to publish information on secondary trades of capacity and hub services.

The CTP also operates on Trayport, which enables participants to streamline their purchase of both gas commodity and pipeline capacity in the market, potentially driving increased utilisation of both. As the pipeline trading reforms have only been in operation for just under five months, it is too early to meaningfully comment on the cost or trade volumes of the new market.

Short Term Trading Market

The Short Term Trading Market (STTM) is a mandatory market-based wholesale gas balancing market operated at the Sydney, Adelaide and Brisbane city gate hubs. AEMO runs the market once a day, on a day ahead basis, using bids, offers and forecasts submitted by participants, and pipeline capacities to determine the schedules for deliveries from the originating pipeline to the transmission users and hubs. In Adelaide and Sydney the hubs are low pressure networks. While AEMO operates the STTM, it does not operate the physical pipeline or network assets, which are under the control of the pipeline operators.

1.3 Rationale for the rule change request

In the rule change request, the Victorian Minister for Energy, Environment and Climate Change provides the rationale for the rule change. The rule change request follows from the Commission's 2017 Review which included a recommendation to create a forward trading exchange.

As the structure of the market has changed with increasing exposure to international LNG and oil prices, the price risk management instruments in the market need to adapt to better support increased spot price volatility. Additionally, increased price volatility is likely to provide participants with commercial opportunity to arbitrage gas prices between trading markets on the east coast or between their bilateral contract price and the DWGM spot price.

As noted in section 1.2.1, the use of long term GSAs to manage spot price risk may be limited in an increasingly flexible and sophisticated market. The proponent identified the following limitations with GSAs:

- 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
- 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 bespoke. This means that they are not readily tradable and are generally considered commercial-in-confidence
- due to the tightening of the supply and demand balance, GSA contract prices have increased compared to historic levels.[25]

The proponent suggested instead, shorter-term flexible agreements are better placed to support spot price risk management in an increasingly volatile spot market. As such, the secondary gas contracts have an important role. However, currently these contracts have no formalised trading platform, high search and transaction costs, and require time to negotiate, which may be prohibitive to higher uptake. Further, these trades are bilaterally negotiated and are not reported, so do not reveal a transparent reference price, creating a potential barrier for less sophisticated participants.

1.4 Solution proposed in the rule change request

The rule change request proposes to establish a forward trading market (FTM) over the DTS that would be settled similarly to the current GSH settlement arrangements and operated by AEMO. The forward market is proposed to be a voluntary, anonymous gas trading exchange for participants to trade standardised forward contracts for gas, assisting participants to manage their spot price risk by securing a fixed forward price for gas without being exposed to spot market variability.

The rule change request proposes the following changes to the National Gas Rules (NGR):

- DWGM gas products traded on the FTM are to be for delivery and receipt of gas on the DTS
- 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

25 Victorian Minister for Energy, Environment and Climate Change, Forward Trading Market rule change proposal, pp.2-3.

- potential changes in relation to market participation, market conduct, trading and information provisioning.[26]

Settlements in the FTM would need to be accounted for in the DWGM, so they are not settled twice. The rule change request presents the following 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.[27]

The rule change request also proposes that if a participant does not inject or withdraw in accordance with their net forward position, the DWGM would schedule the net forward position as per the standard scheduling arrangements at the 6am schedule. For settlement purposes, the net forward position would be treated similarly to how delivery variances are treated for a participant under the GSH Agreement. This delivery variance would be automatically settled at the 6am DWGM market price on the day that the delivery variance occurred. The proponent proposes that the settlement of delivery variances should occur as part of DWGM settlement, while the settlement of forward trades would occur as part of the forward trading market settlement.

The proposed design of the FTM is aligned with the long term goals of developing the target model.[28]

1.5 The rule making process

On 14 March 2019, the Commission published a notice advising of its commencement of the rule making process and consultation in respect of the rule change request.[29] A consultation paper identifying specific issues for consultation was also published. Submissions closed on 26 April 2019.

The Commission received 11 submissions relating to the forward trading market as part of the first round of consultation. The Commission considered all issues raised by stakeholders in submissions. Issues raised in submissions are discussed and responded to throughout this draft rule determination. Issues that are not addressed in the body of this document are set out and addressed in Appendix A.

1.6 Consultation on draft rule determination

The Commission invites submissions on this draft rule determination by 22 August 2019.

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26 Victorian Minister for Energy, Environment and Climate Change, DWGM Forward Trading Market rule change proposal, p. 4.

27 Victorian Minister for Energy, Environment and Climate change, DWGM Forward Trading Market rule change proposal, p. 5.

28 The target model is discussed in Box 2 in section 5.3 of the *Victorian DWGM Background Paper*.

29 This notice was published under 308 of the National Gas Law (NGL).

Any person or body may request that the Commission hold a hearing in relation to the draft rule determination. Any request for a hearing must be made in writing and must be received by the Commission no later than 11 July 2019.

Submissions and requests for a hearing should quote project number GRC0050 and may be lodged online at www.aemc.gov.au.

2 DRAFT RULE DETERMINATION

2.1 The Commission's draft rule determination

The Commission's draft rule determination is to not make the proposed rule to establish a forward trading market in the Victorian DWGM.

The Commission's reasons for making this draft determination are set out in section 2.4.

This chapter outlines:

- the rule making test for changes to the NGR
- the assessment framework for considering the rule change request
- the Commission's consideration of the proposed rule against the national gas objective.

Further information on the legal requirements for making this draft rule determination is set out in Appendix B.

2.2 Rule making test

2.2.1 Achieving the NGO

The Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the national gas objective (NGO).[30] This is the decision making framework that the Commission must apply.

The NGO is:[31]

> 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, safety, reliability and security of supply of natural gas.

2.3 Assessment framework

In assessing the rule change request against the NGO the Commission has considered the following criteria:

- **Effective risk management in the DWGM —** whether market participants are able to manage price and volume risk and options to improve the effectiveness of risk management activities.
- **Trading between the DWGM and interconnected pipelines —** whether the current DWGM arrangements inhibit trading of gas between the DTS and interconnected facilities and pipelines, and options to allow producers and shippers to effectively operate across gas trading hubs on the east coast without incurring substantial transaction costs.

30 Section 291(1) of the NGL.
31 Section 23 of the NGL.

- **Promoting competition in upstream and downstream markets —** whether the DWGM continues to encourage the introduction of new gas supplies to the market and promote competition among retailers for the sale of gas, and the extent to which the design of the DWGM may be a deterrent to large users participating in the market.
- **Regulatory and administrative burden —** whether the cost of implementing the proposed solutions is proportional to the costs of managing the issues it is trying to resolve.

2.4 Summary of reasons

Having regard to the issues raised in the rule change request and during consultation, the Commission is not satisfied that the proposed rule will, or is likely to, contribute to the achievement of the NGO for the following key reasons:

- The additional benefits from establishing the forward trading market are likely to be small given the risk management options already available to market participants and the lack of a clear demand for new products to be traded on the FTM, whilst the cost of creating the market are not immaterial. As such it is not clear that the benefits would outweigh the costs so that the proposed rule would contribute to downward pressure on prices for consumers.
- It is not clear that there is a market failure such that market participants are unable to effectively manage the spot market risk without the establishment of the forward trading market. The Commission believes that there are currently few barriers preventing the private sector from offering a similar service, and when activity on industry led services, such as trade-points and brokering services for OTC contracts, is increasing. While an AEMO-operated FTM has some efficiency benefits over the existing markets, it also involves a transfer of risk from shareholders in privately operated markets to AEMO and ultimately end consumers.

Accordingly, the Commission's draft rule determination is to not make a rule.

The Commission's considerations in relation to the assessment framework are provided below.

Effective risk management in the DWGM

The Commission acknowledges that introducing the FTM would provide an alternative risk management option for market participants, however it is not clear that these products are necessary. Market participants currently have a number of options to manage spot price risk, and activity on industry led services, such as trade-points and brokering services for OTC contracts, is increasing. There appear to be few barriers to the ASX introducing similar products as proposed under the FTM, and, given this has not occurred it could suggest the underlying demand may not be significant. Further, there is a risk that the FTM would create unnecessary complexity and lead to liquidity being split over different products, hampering price discovery and effective risk management.

Trading between the DWGM and interconnected pipelines

The similarities between the proposed FTM and the Gas Supply Hubs (GSH) may improve flows of gas between northern and southern gas markets, with the potential development of spread products that could be useful to participants. However, it is not clear how significant the savings on transaction costs would be in moving from current arrangements to the FTM, and the extent this occurs currently using existing risk management products. Other concerns raised with current arrangements, such as difficulties arranging a sub-allocation for an OTC contract, could be addressed through means other than the introduction of the FTM.

Promoting competition in upstream and downstream markets

The proposal to establish the FTM is unlikely to have a significant effect on upstream gas supply decisions as it is proposed to trade only short term products. If the FTM increased the risk management options available, this could encourage new market entrants and downstream competition. However, as noted above, it is not clear that introducing the FTM represents an improvement in risk management options nor that there is demand for additional products.

Regulatory and administrative burden

The cost of establishing the FTM are not immaterial, both through AEMO's system costs and through market participants time in building capacity to trade products on the FTM. Given the uncertain benefits the Commission is not convinced making a rule to establish the FTM would outweigh these costs and be in the long term interests of consumers.

3 THE CASE FOR A FORWARD TRADING MARKET

This chapter outlines the benefits and drawbacks of implementing a forward trading market that operates alongside the DWGM. It concludes that the potential benefits of introducing the FTM is unlikely to outweigh the costs. The chapter sets out the proponent and stakeholder views on the introduction of the FTM. This is followed by analysis of the interaction of the FTM with existing risk management options, an overview of some efficiency benefits from the FTM and some potential drawbacks.

3.1 Proponent's view

The rule change proponent suggests the introduction of the FTM is expected to give participants more options to manage price risk and hedge their positions ahead of the gas day. The proponent cited a number of other benefits including those set out below.

Exchange trades would be transparent, which would allow for the development of a forward reference price. Over time this reference price could for the basis of operational, production and consumption investment decisions.

The introduction of standardised short term contracts which may be traded up to a day ahead may encourage new entrants who are currently discouraged by the risk involved in trading on the spot market to participate in the market. For example if a participant from outside the DTS wanted to occasionally participate in the DWGM, the introduction of the FTM may enable them to participate with relative ease. Further this may reduce the search and transaction costs for participants, and the cost of managing counterparty risk.

Having greater consistency in trading markets in the east coast will help to reduce the complexity and costs that may have been discouraging greater participation in the DWGM. Having similar products listed on the same Trayport platform in both the GSH and FTM may reduce barriers for trade between these markets and result in gas being transported more easily between regions where it is most valued.

Improving risk management options for participants is expected to place downward pressure on the costs of providing and using gas, which, if this reduces costs for participants, could reduce costs to consumers.

3.2 Stakeholder views

Many stakeholders submitted that as long as the implementation costs were not excessive, the introduction of the FTM would be beneficial to the market.[32] However, stakeholders also raised concerns about the impact the introduction of the market would have on existing risk management tools and also questioned the need for the FTM altogether.[33] The following section explores stakeholders views in more detail, focusing on potential benefits, and potential drawbacks.

32 Consultation paper submissions: AEMO, p. 2; AER, p. 2; EnergyAustralia, p. 4; MEU, p. 4; Origin Energy, p. 5; Qenos, p. 2; Snowy Hydro, p. 1.

33 Consultation paper submissions: AGL, p. 2; ERM Power, p. 3;Meridian Energy Australia, p. 1.

3.2.1 Potential benefits

In its submission, the AER identified some issues with the current price risk management products available to participants, suggesting that long-term GSAs have become less flexible and secondary trades between market participants involve high transaction costs due to search time, the negotiation process and counterparty risk.[34] Additionally, Snowy Hydro noted the bespoke and bilaterally negotiated nature of GSAs mean that there is a lack of information sharing as these deals are commerical-in-confidence.[35]

The AER went further to note that improved ability to manage price risk may improve investment decisions, encourage new entrants and competition and reduce participation costs across east coast markets.[36] AEMO noted that the FTM would assist retailers to manage their short term gas commodity purchases ahead of the gas day through a transparent platform listing standardised products.[37] Similarly, Qenos suggested the introduction of this type of platform would assist as an alternative avenue to source gas and hedge price risk.[38] Snowy Hydro also noted that the proposed market would help share risk among participants with different risk attitudes.[39] Further, the FTM could better link gas and electricity markets by allowing gas generators to purchase gas for generation ahead of the gas day, further spreading risk.[40]

Another benefit of the FTM cited by participants is reduced transaction costs for engaging in forward contracts as standardised products assist participants manage their price risk.[41] AEMO noted that the standardisation of products and centralisation of settlement and prudentials allows participants to trade with new counterparties, without having bilateral arrangements in place, noting participants suggested this as a major benefit from the introduction of the GSH.[42] Major Energy Users (MEU) suggested that the open trading platform that could be used in the FTM would have advantages for all traders of gas, resulting in benefits to consumers.[43] EnergyAustralia also identified another reduction in transaction costs as participants could use existing settlement and sub-allocation processes in a more streamlined fashion, improving secondary trading of physical gas by simplifying these complex processes.[44] EnergyAustralia noted:

"the present mechanism for forward trading in the DWGM is cumbersome and presents barriers to altering a position in the market. Currently, through the accreditation of controllable quantities process, at Longford (for example) both the buyer and seller must commit to giving up and receiving the Maximum Daily Quantity (MDQ) via a letter which is executed by both parties and confirmed by AEMO. The buyer and seller also have to submit

34 AER, consultation paper submission, p. 2.
35 Snowy Hydro, consultation paper submission, p. 1.
36 AER, consultation paper submission, p. 2.
37 AEMO, consultation paper submission, p. 2.
38 Qenos, consultation paper submission, p. 2.
39 Snowy Hydro, consultation paper submission, p. 1.
40 AEMO, consultation paper submission, p. 2.
41 Snowy Hydro, consultation paper submission, p. 1.
42 AEMO, consultation paper submission, p. 2.
43 MEU, consultation paper submission, p. 4.
44 EnergyAustralia, consultation paper submission, p. 4.

an application to change controllable injection and withdrawal quantities and only one sub-allocation is possible per participant ID. All these factors prohibit efficient forward trading."[45]

AEMO, Origin Energy and Snowy Hydro all recognised the benefit of enhancing the level of pricing information available to participants that would result from introducing an FTM.[46]

Some participants noted the benefits of introducing a market similar to the GSH. MEU noted the GSH have demonstrated net benefits to end users, and such a similar market established in the DWGM should develop similar benefits.[47] While Origin Energy and the AER commented on the benefits of having a similar platform and products to the GSH, which may improve cross-market trade by lowering transaction costs and complexity for participants operating across both markets.[48]

Some stakeholders viewed the FTM as complementing existing risk management products in the market. AEMO noted that the physical FTM could complement the financial ASX products as a liquid short term physical market could reduce the risks of longer-term financial products. Participants could purchase short term physical products to firm the longer-term ASX products, improving the trade and confidence in both markets, suggesting liquidity in one market should improve liquidity in the other.[49] Further, AEMO suggested the FTM would be complementary to existing bilateral trade agreements and trading at the border of the DTS.[50] Snowy Hydro also noted that while the FTM would not completely address all the defined problems, it would be likely to increase liquidity, as more regular trade in the market may occur as a result of increased access to gas that would not normally be offered to the DWGM from storage or outside the DWGM.[51] Origin Energy also noted that providing market participants with additional flexibility to trade day ahead and longer dated products would complement the existing risk management framework.[52]

3.2.2 Potential drawbacks

Some stakeholders were more sceptical about the benefits that the FTM might bring to the market. ERM Power noted that the market had evolved since the idea of the FTM was floated in the 2017 Review.[53] Several stakeholders noted that trade on ASX Victorian gas futures had increased over the last year.[54] AGL noted that total open interest in ASX products increased from near zero in March 2018 to 5.5 PJ in March 2019, while the AER noted future open interest for second, third and fourth quarter of 2019 ranges between 100 and 165 contracts, equivalent to 10-16.5 TJ of gas per day.[55] Both the AER and AGL noted that these quantities are relatively low, but a significant improvement. The AER suggested that the relatively low

45 EnergyAustralia, consultation paper submission, p. 4.
46 Consultation paper submissions: AEMO, p.4; Origin Energy, p. 5; Snowy Hydro, p. 1.
47 MEU, consultation paper submission, p. 4.
48 Consultation paper submissions: AER, p. 2; Origin Energy, p. 5.
49 AEMO, consultation paper submission, p. 9.
50 AEMO, consultation paper submission, p. 2.
51 Snowy Hydro, consultation paper submission, p. 1.
52 Origin Energy, consultation paper submission, p. 5.
53 ERM power, consultation paper submission, p. 3.
54 Consultation paper submissions: AER, p. 2; AGL, p. 2; ERM, p. 3; MEA, p.1.
55 Consultation paper submissions: AER, p. 2; AGL, p. 2.

levels of trade on the ASX futures market may be due to the ASX products being an insufficient overall hedge to Victorian gas market price, including both the spot price risk and ancillary payment risk.[56] ERM Power and AGL suggested if the FTM were to be introduced in the ASX gas futures market, it would be likely to dilute trading activity across the two markets. ERM Power stated the advantages in the ASX product given its alignment with electricity financial instruments, and suggested it could be beneficial placing this rule change on hold while allowing further time for the ASX market to develop.[57]

Similar points were raised about the existing OTC contract market. Meridian Energy Australia and AGL both noted that gas OTC markets had developed and have sufficient liquidity.[58] AGL suggested that changes made last year to implement an Australian cash settled gas addendum to the ISDA Master Agreement has improved trades in both the DWGM and Short term trading markets (STTM) by allowing parties to enter bespoke arrangements with non-standard features relating to volume, tenure and reference pricing. AGL noted it was aware the addendum had been used to transact across multiple gas markets, across shorter time periods, using different products including swaps and options, and against a DWGM schedule other than the 6am schedule.[59]

AGL also submitted several other risk management options for participants, noting that brokers had begun to publish a gas market forward curve for the DWGM, which may be more valuable to participants than data published from the gas supply hubs. AGL also noted that physical trading of gas occurs at Culcairn, Longford and through in situ account transfers at Iona, so options exist for participants to secure physical gas contracts.[60]

Meridian Energy Australia suggested that benefits haven't eventuated from the capacity trading reforms which are considerably complicated, and that the FTM may also be complicated with little observable benefit.[61]

The AER submitted that gas market participants had noted the complexity of pricing in the Victorian markets, inconsistent or inadequate publicly available information about infrastructure outages as explanations for why the ASX Victorian futures have not traded more widely.[62]

3.3 Analysis

In order to assess the proposal for introducing a forward market to operate alongside the DWGM, several factors need to be accounted for, including:

- an assessment of how the FTM would operate alongside existing risk management tools
- the benefits and efficiency gains from implementing the market

56 AER, consultation paper submission, pp. 2-3.
57 Consultation paper submissions: AGL, p. 3; ERM power, p. 3.
58 Consultation paper submission: AGL, p. 2; MEA, p. 1.
59 AGL, consultation paper submission, p. 2.
60 AGL, consultation paper submission, p. 2.
61 Meridian Energy Australia, consultation paper submission, p. 2.
62 AER, consultation paper submission, p. 2.

- any drawbacks that could eventuate from implementing the market.

The remainder of this chapter follows this structure, and explains the Commission's draft position to not make a rule for the introduction of the proposed FTM.

3.4 Interaction with existing risk management tools

As noted in section 1.2.1, there are several options currently available for participants to manage spot-price risk including:

- financial products on the ASX (currently quarterly and annual swaps)
- bilaterally negotiated contracts such as gas supply agreements (GSAs) and over-the-counter contracts
- trading physical gas through line-pack accounts at trade-points just outside the DTS.

As ERM Power noted in its submission, the market has changed since the Commission completed its 2017 review.[63] When the final report for the 2017 Review was released, there were effectively no trades occurring on the ASX, participants suggested the OTC and GSA markets were difficult for participants to trade on, and there were minimal trades at the trade-points outside the DTS.[64] There have been a number of changes since then:

- Trades on the ASX have increased, although trading remains at a relatively low level. The ASX has informed the AEMC that over the past year they have been working with participants to build the Victorian gas market, as they have with electricity markets. They intend to introduce voluntary market makers in both electricity and gas markets around the east coast, this would ensure there was a supply of Victorian gas products on the ASX.
- Several brokers have entered the Victorian gas market in the past year, assisting in building trades on the OTC market and at the trade-points.[65]
- There is slightly more information on gas prices in the market from public ASX figures, ACCC gas inquiry interim reports and, for a price, through brokers.

Due to their longer tenure, the current ASX product suite and most GSA products are valuable to market participants as they provide longer term price certainty. This is particularly valuable to Victorian mass market providers, that tend to only change their retail prices once a year. Trades through the trade-points and on some OTC contracts tend to be shorter term and hedge against short-term price fluctuations.

Assuming the tenures of products listed on the ASX and those proposed for the FTM do not change, the introduction of the FTM would not necessarily dilute trades on the ASX, as suggested by ERM Power and AGL Energy, as the risk management products serve different purposes.[66] The proposed product suite for the FTM includes monthly, weekly, daily and day-ahead products, which could assist participants around the margins when managing

63 ERM Power, Consultation paper submission, p. 3.
64 AEMC 2017, Review of the Victorian declared wholesale gas market, Final report, 30 June 2017, Sydney, pp. 21-24.
65 AGL, consultation paper submission, p. 2.
66 Consultation paper submissions: AGL, p. 3; ERM Power, p. 3.

short-term price flexibility, when they are not fully hedged, or to supplement gas hedging if there is cheaper gas available. Further, as AEMO noted in their submission, the FTM could potentially support the longer term ASX products by providing participants an avenue to purchase shorter-term firming products to reduce the risk of entering these longer term contracts.[67] However, there are currently no barriers preventing the ASX from listing shorter-term products nor, under the proposed design, the FTM listing longer term products. Additionally, some factors leading to the low levels of trade of ASX products could also limit the potential uptake of trading of FTM products.

Similarly, the introduction of the FTM would not necessarily affect the trading of longer-term GSAs. In the Victorian market, a large proportion of GSAs are written from Longford and often tied to physical natural gas extraction and production processes. Discussions with stakeholders that sell GSAs suggested that gas producers rarely have an issue selling contracts. This suggests that the sellers of the GSAs tend to have a degree of power in contract negotiations favouring contracts which suit their preferences, such as take or pay conditions. Therefore, there may be little incentive for these parties to sell gas on to the FTM where the contractual terms may not be as favourable, when they have no issue selling their gas directly to participants through GSAs. However, as noted by a participant at the DWGM rule change workshop, there may be value for large industrials to purchase gas through a GSA and use the FTM to hedge risk around the take-or-pay conditions. At a workshop held on the rule change on 16 May 2019,[68] a stakeholder suggested the take-or-pay penalty on GSAs had increased from 70 per cent to 80 per cent of the 'take' price over the past few years, and the ability for large industrials to use the FTM to on-sell this unused gas could be increasingly beneficial.

The FTM would be likely to have a larger impact on the shorter-term OTC/GSA contract market and trade at the trade-points just outside the DTS. There is limited publicly available information on the products traded and frequency of trades in these markets. During discussions, a stakeholder suggested that some participants currently use the trade-point at Culcairn to purchase gas on a short-term basis such as day-ahead. The trade-point at Culcairn is operated by APA, who hosts the market and takes a margin on each trade. If introduced, the FTM would operate similarly to these trade-points, however would not be location specific, instead operating as a virtual market across the DTS. As such, some trades of both OTC contracts and at trade-points could move on to the FTM, if it were introduced.

3.5 Efficiency benefits

The FTM has the potential to create efficiencies it might create for market participants, which could flow through to consumers. These efficiencies could arise from three broad areas:

- additional transparency
- integrating with AEMO systems and markets
- increased flexibility.

67 AEMO, consultation paper submission, p. 9.

68 Slides from the workshop are available at: https://www.aemc.gov.au/rule-changes/dwgm-forward-trading-market.

Due to the voluntary nature of FTM, for any of these benefits to be realised, the FTM requires sufficient participation and trading.

3.5.1 Additional transparency

If introduced, the FTM could create some additional transparency for market participants. An open, anonymous exchange with liquid trade could reduce some search costs for participants by making it easier for participants to list and find shorter-term gas products, compared to the current OTC market. While there are just under 30 registered participants in the DWGM,[69] potentially greater effort would be required to find a counterparty and sell a short-term contract, over selling directly on the FTM. Additionally, standardised contracts may reduce some transaction costs, as negotiation of contract conditions would not be required, improving the likelihood of shorter-term trades.

A published price has the potential to lead to better operational decisions for participants. Using the FTM participants could build a short term forward curve, which may shape their decisions to operate in a more efficient manner. While there has been increased public information on future gas prices through increased trade on the ASX and ACCC reporting on long term GSA prices, these are only beneficial for the creation of longer term forward curves. However, a joint ACCC/Gas Market Reform Group (GRMG) report recently recommended that short term GSAs with a term of less than one year report this information to AEMO for publication on the Bulletin Board.[70] This information on shorter-term trades would assist the future development of short term forward curves.

For most of these efficiency gains, they would likely be more pertinent for new and smaller participants. Larger more sophisticated and experienced participants would be likely to have established trading relationships, and more information gained from their own trades and brokerage services. Whereas a new participant in the DWGM, or a smaller industrial may not have the resources or experience to manage these issues, rather relying on the longer-term hedging products and the spot market to source their gas and deal with spot price risks.

3.5.2 Integration with AEMO systems and markets

There are also several efficiencies of integrating the FTM with AEMO systems and markets. The similarities with the GSHs may improve flows of gas between northern and southern gas markets, with the potential development of spread products that could be useful to participants. Spread products have become increasingly popular between the South East Queensland and Wallumbilla pipelines of the Wallumbilla GSH.[71]

Additionally, there could be some benefits with sharing prudentials across the GSH and FTM. For example, if a participant is purchasing gas in the GSH and on-selling it in Victoria, currently AEMO only has visibility on the purchase of gas, and hence would calculate a higher level of prudentials based on this exposure. By linking prudentials between the GSH and the

69 AEMO, *Participants registered in the Vic, SA, Qld and NSW/ACT gas markets,* accessed 11 June 2019. Calculated as the sum of retailer, producer and distribution customers that are market participants.

70 ACCC and GRMG (2018) *ACCC- GRMG joint recommendations: measures to improve the transparency of the gas market*, 21 December 2018, p. 6.

71 AEMO, consultation paper submission, p. 8.

FTM, AEMO has visibility of the full exposure of the trade, and can adjust the prudential requirements in a more efficient manner. Due to the nature of prudential calculations in the GSH, which is calculated based on the trade exposure of each counterparty, risks introduced by the new market would not be shared amongst all participants.

Participants could also avoid some costs and time currently required to arrange a sub-allocation for an OTC contract. When participants trade gas amongst each other at an injection point, there is a lengthy process to register that trade with AEMO. This can take time and act as a deterrent for short tenure trades. If participants used the FTM instead of these OTC contracts, participants could avoid some of these transaction costs as the trade would occur directly through AEMO's systems and processes.

Finally, if the secondary trading of AMDQ rights part of the improvements to the AMDQ regime rule change is made, there could be additional efficiency benefits for participants. The proposal is that both markets use the same Trayport platform, which could enable participants to organise their non-firm capacity rights at the same time as their physical commodity purchases. However, this efficiency is unlikely to result in any cost savings that would be passed on to consumers.

The efficiency benefits of integration with AEMO systems and markets would be likely to benefit participants that are operating in the GSH or using short term OTC contracts within the DTS.

3.5.3 Increased flexibility

The FTM proposal is that it would act as a virtual hub for trades in the market, and would be indifferent from the specific injection points used to inject to the DTS. This could potentially benefit participants over trades at the existing physical trade-points which are location specific. Participant can currently get around this issue by holding trading accounts with each of the trade-points, however this could be costly, which could be a barrier for new and smaller participants. Alternatively, participants can use the ASX which is also locationally agnostic.

Additionally, an FTM may be valuable for large industrials, offering additional flexibility around GSA contracts. As noted in section 3.4, the FTM could be used by large industrials to hedge risk around the take-or-pay penalties present in longer term GSAs. If they have any unused gas under their GSAs, these participants could use the FTM as an additional mechanism to on-sell the unused gas, outside of simply selling the gas on the spot market. This would provide a greater degree of short-term certainty for market participants and provide them more flexibility in managing their risks.

3.6 Drawbacks and considerations

If the FTM was introduced, there could also be some negative repercussions for industry. These would likely involve additional complexity, costs and impacts on existing markets.

3.6.1 Cost implications for market participants

The introduction of the FTM would create costs. AEMO has suggested that the costs of implementing the market would not be excessive. Discussions with AEMO suggest the costs of adding a new market to Trayport, appear to be minimal. However, there would be some more substantial costs associated with integrating the FTM with the existing DWGM settlement systems. AEMO noted that they required a full design of the FTM to complete a full estimate of the implementation costs of the project.[72] Although not directly comparable, for reference the:

- Wallumbilla GSH project was budgeted at $1.7 million in December 2012 with expected ongoing costs of $570,00 per year.[73]
- Pipeline capacity trading reforms were budgeted to have a total capital expenditure of around $2.9 million, recovered over five years, and operational costs of approximately $920,000 for the first year. [74]

Whatever the eventual costs of the FTM would be, they would be recovered through participant fees. For market participants that currently trade on markets held on Trayport (for example, the GSH and CTP) it is unlikely that there would be substantial additional costs for trading on the FTM. However, those without a Trayport licence would require one. As a point of reference, the current Trayport licence fee for participants to trade on the GSH is $12,000 per year with an additional fee of $0.01 - $0.03/GJ depending on which product is being traded. The per unit trade costs of using the GSH is similar to the costs for in-pipe trading of $0.0101/GJ, however the annual account/licence fees would differ.[75] For reference, the ASX charges participants an application fee of $25,000 (plus GST) and an annual fee of $10,000 (GST waived).[76] In addition, there is currently a $15 (plus GST) per contract for Victorian gas futures. This fee is paid by each side of the contract, i.e. by both buyers and sellers of the contracts.[77]

Beyond the direct participation costs, during a workshop on the rule change, some stakeholders suggested introducing the FTM would create an additional burden for them, as they would need to understand how the market interacts with the existing markets. IT systems may also need to be adjusted, although if the participants already use Trayport this shouldn't be significant. Stakeholders also noted that there had been a lot of reforms and changes in the market the past few years, and the market is struggling to keep abreast of those changes. These stakeholders noted that introducing a new market would simply add more pressure and unnecessary options for trading desks. However, as this market is

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72 AEMO, consultation paper submission, p. 5.

73 For implementation costs see AEMO's Consolidated Final Budget and Fees 2014-15, p. 19. Ongoing annual costs are from AEMO's Detailed Design for a Gas Supply Hub at Wallumbilla, p. 26.

74 Cost estimates extrapolated from the estimated expenses of the first four months presented in *Pipeline capacity trading: AEMO budget and fees*, February 2019, p. 7, available at: https://www.aemo.com.au/-/media/Files/Gas/Pipeline-Capacity/2019/Pipeline-Capacity-Trading-AEMO-Budget-and-Fees.pdf

75 Based on APA in pipe trading tariffs, accessed on 13 June 2019, available at: https://www.apa.com.au/our-services/gas-transmission/current-tariffs-and-terms/current-tariffs-and-terms/. These costs may vary between trade-point operators.

76 The current participant fee schedule is available at: https://www.asx.com.au/services/participant/participant-fee-schedule.htm.

77 For the full schedule of fees for ASX trading participants see https://www.asxonline.com/content/dam/asxonline/public/documents/schedule-of-fees/ASX-24-and-ASX-Clear-(Futures)-Schedule-of-Fees.pdf.

voluntary, if this is a significant cost to participants they can simply opt not to participate and avoid these costs.

As a voluntary market, if the FTM does not have sufficient participants registering for a licence, the costs would likely be socialised across the other Trayport markets such as the GSH and CTP.

3.6.2 Impact on existing markets

Establishing a new AEMO-operated market would impact existing industry-led markets. Firstly, there appears to be few barriers for the ASX to introduce similar products as those proposed under the FTM. As the ASX operates as a commercial, profit maximising entity, it is likely that if they have not already introduced short term products, the underlying demand for these products may not be significant. We note that the costs for participants to partake in the ASX may act as a barrier to entry to smaller participants.[78]

Additionally, if introduced the FTM would be in direct competition with the trade-points that operate outside the DTS. As discussed in the previous section, an AEMO operated market would have some efficiencies over these markets. However, while it could be argued that the current markets have not delivered a full suite of risk management products for the DWGM, it is not clear if this is due to a market failure or a lack of demand. As noted above, if there is insufficient demand due to the voluntary nature of the market, the implementation costs, and risks, will be borne by AEMO and ultimately consumers. An AEMO-operated market may not be as efficient in managing the risks associated with these products, and their eventual success or failure, compared to an industry-led market.

3.7 Draft Commission position

The Commission is of the opinion that the potential benefits to be achieved from introducing the FTM are unlikely to outweigh the drawbacks. Therefore, the introduction of the FTM is unlikely to satisfy the NGO. The Commission has decided not to make a draft rule. While the Commission recognises the proposal to introduce the FTM has merit, the decision ultimately comes down to:

1. uncertainty that the additional potential benefits from the market are sufficient to justify the cost of creating the market
2. lack of clarity that there is market failure such that risks cannot be efficiently managed by market participants through other means.

The Commission is of the view that there is a risk of insufficient demand for the products to be traded on a forward trading market. To justify a rule to create a new market, the Commission requires that the benefits are likely to more than compensate for the costs of implementation that would ultimately be passed on to end consumers. Through discussion with market participants and other stakeholders, the Commission believes the potential

78 ASX market participants require an Australian Financial Services Licence and large bank guarantees to account for margining requirements for both the ASX and the clearing house used on the ASX.

benefits from the introduction of the market are likely to be peripheral, and unlikely to be sufficient to outweigh the costs.

The Commission is reluctant to make a rule to create a market where a clear market failure has not been established. The Commission believes that there are currently few barriers preventing industry from offering a similar service, and when activity in industry-led services, such as trade-points and brokering services for OTC contracts, is increasing. Further, where the demand for an additional market is uncertain, the risk that the establishment of that market on a 'just in case' basis would create costs, which are ultimately passed onto consumers through AEMO participant fees. In contrast, a commercially established market, does not incur any costs on consumers in the market if demand does not materialise. The Commission is mindful that consumers are not well-placed to manage this demand risk, with market participants and entities such as the ASX better positioned.

ABBREVIATIONS

2017 Review	2017 Review of the Declared Wholesale Gas Market
ACCC	Australian Consumer and Competition Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AMDQ	Authorised Minimum Daily Quantity
ASX	Australian Securities Exchange
Commission	See AEMC
CTP	Capacity Trading Platform
DTS	Declared Transmission System
DWGM	Declared Wholesale Gas Market
FTM	Forward Trading Market
GMRG	Gas Market Reform Group
GSA	Gas Supply Agreement
GSH	Gas Supply Hub
MEU	Major Energy Users
NEM	National Electricity Market
NGL	National Gas Law
NGO	National gas objective
OTC	Over-the-counter contract
STTM	Short Term Trading Market

A SUMMARY OF OTHER ISSUES RAISED IN SUBMISSIONS

This appendix sets out the issues raised in the first round of consultation on this rule change request and the AEMC's response to each issue.

Table A.1: Summary of other issues raised in submissions

STAKEHOLDER	ISSUE	AEMC RESPONSE
APA, Consultation paper submission, p. 2.	The interplay between the role of AMDQcc and the initiative to create a forward market for gas within the context of the daily DWGM auction procedure, the eligibility to participate in the forward market, and whether shippers can commit to delivery at a future date, particularly where shippers may be relying on the future availability of non-firm capacity [will need to be addressed].	As the Commission has decided not to make the draft rule, the feedback on market design was not addressed.
AEMO, consultation paper submission, pp. 2-3.	The market should have the following features: Standardisation. The trading products will need to have standard terms and conditions to make them accessible to as broad a range of participants as possible. Centralised settlement and prudential management. A robust prudential framework should underpin the market to minimise counter-party risk and build market confidence. Anonymised trading. As the market will be voluntary and it may take time for liquidity to develop (particularly in longer-dated products), anonymity of orders and trades will likely be important to growing the market and encouraging initial participation. Governance. The market should be subject to a strong and transparent governance framework with a transparent change process. Market conduct should be enforced by the AER. Transparency. While the participant-specific details of trades and orders should be anonymised, market information should be made public e.g. publication of trade prices and volumes to aid price discovery.	

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AEMO, consultation paper submission, pp. 4-5.	FTM market participants will need to be DWGM market participants (or acting as an agent for a DWGM participant) and have the ability to deliver or receive gas into the DTS. This does not necessarily prevent financial intermediaries from participating but they will need to be capable of injecting or withdrawing gas if they have a net long or short position on the FTM.	
AEMO, consultation paper submission, p. 5.	Product specifications should be developed in consultation with industry and able to be changed in a timely and transparent process. The current product development approach (through the Exchange Agreement change process) has worked well and a number of changes have been made to the products since the market was implemented in 2014. AEMO considers that there is value in mirroring the tenors available for Wallumbilla and Moomba. If the product tenors are the same, then spread products between Wallumbilla, Moomba and Victoria could be established. Spread products link markets together and allow participants who have gas at both markets or transportation between those markets to monetise their spare capacity.	
AEMO, consultation paper submission, p. 7.	AEMO sees benefit in integrating the FTM with DWGM. AEMO suggests that integration could be achieved through the automatic delivery (transfer of title) of a FTM trade into the Declared Transmission System. This would mean that a seller of an FTM product would effectively be short in the DWGM and they would have an obligation to inject gas into the DTS to meet their FTM trades. And a buyer would be long in the DTS with an obligation to withdraw gas from the DTS in accordance with its net position in the FTM.	
Energy Australia, consultation submission, p. 4.	Depending on future changes to the AMDQ arrangements in the DWGM the FTM should also allow for the validation of AMDQ when a counterparty is physically injecting to facilitate the trade to ensure any uplift hedge is realised.	
Energy Australia,	We note that in the rule change proposal variances between traded and	

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consultation submission, p. 5.	scheduled amount for forward products would be settled at the 6am DWGM price. We consider that it would be more appropriate for variances (along with additional penalty for non-delivery) to be settled at the following schedule price where the impact of non-delivery would actually be realised by the market. This is similar to how deviation costs are currently calculated in the DWGM.	
Energy Australia, consultation submission, p. 5.	To minimise barriers to entry any AEMO FTM should share prudential requirements across all platforms and markets (capture all netting), for example GSH, CTP, DWGM, STTM and the Electricity Market. This ensure costs are not prohibitive to participants and should result in increased trading across these platforms, ultimately leading to better outcomes for customers.	
MEU, consultation paper submission, p. 4.	The MEU considers that as far as possible, the DWGM trading hub design should as closely as possible reflect the features of the existing trading hubs so there is a degree of compatibility between them. The MEU sees that such compatibility would increase the potential for trading between hubs to provide other services such a "swaps" which also occur now but are not transparent.	
Origin Energy, consultation paper submission, p. 6	An issue that would need to be considered though is the impact of the prudential framework. The current requirement for all buyers/sellers to provide 25 per cent of the face value of a forward trade on the GSH may be too onerous for market participants and limit trade in longer dated products. Aligning the framework with that applied for Australian Securities Exchange (ASX) futures trades, which uses risk-based assessments of individual energy portfolios to determine prudential margins, may be a more appropriate approach.	
Origin Energy, consultation paper submission, p. 6	Trading on the FTM is likely to be enhanced where market participants have visibility of up to date information on capacity outlooks for all interconnecting	

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	pipelines and production facilities (e.g. a seller seeking to flow gas from Wallumbilla to the DWGM would need to ensure there are no outages on the pipelines between those points). Recent enhancements to the Gas Bulletin Board (GBB) have increased the level of transparency in this regard. However, there may be merit in developing capacity outlook reports equivalent to the short and medium term projected assessment of system adequacy (PASA) reports produced for the National Electricity Market (NEM). This would likely provide market participants with easier access to a consolidated suite of information.	

B LEGAL REQUIREMENTS UNDER THE NGL

This appendix sets out the relevant legal requirements under the NGL for the AEMC to make this draft rule determination.

B.1 Draft rule determination

In accordance with s. 308 of the NGL the Commission has made this draft rule determination in relation to the rule proposed by the Victorian Minister for Energy, Environment and Climate Change.

The Commission's reasons for making this draft rule determination are set out in section 2.4 and Chapter 3 of this draft rule determination.

B.2 Power to make the rule

The Commission is satisfied that the draft rule falls within the subject matter about which the Commission may make rules. The draft rule falls within s. 74 of the NGL as it relates to the operation of a declared wholesale gas market, and the operation by AEMO of a gas trading exchange.

B.3 Commission's considerations

In assessing the rule change request the Commission considered:

- it's powers under the NGL to make the rule
- the rule change request
- submissions received during first round consultation
- the Commission's analysis as to the ways in which the proposed rule will or is likely to, contribute to the NGO.

There is no relevant Ministerial Council on Energy (MCE) statement of policy principles for this rule change request.[79]

The Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper performance of Australian Energy Market Operator (AEMO)'s declared system functions.[80] The draft rule is compatible with AEMO's declared system functions because it is unrelated to those functions.

79 Under s. [33 of the NEL/ 73 of the NGL/ 225 of the NERL] the AEMC must have regard to any relevant MCE statement of policy principles in making a rule. The MCE is referenced in the AEMC's governing legislation and is a legally enduring body comprising the Federal, State and Territory Ministers responsible for energy. On 1 July 2011, the MCE was amalgamated with the Ministerial Council on Mineral and Petroleum Resources. The amalgamated council is now called the COAG Energy Council.

80 Section 295(4) of the NGL.