Review of options to improve price caps in the east coast gas markets

Meeting:	GWCF Meeting #40
Date:	Wednesday, 20 September 2023
Time:	9:30am-11:30am (AEST)
Location:	Teleconference
Teleconference details:	Meeting Link here.

1 Issue

Stakeholder submissions to the 2022 Gas Market Parameter Review raised concerns for inefficient outcomes where gas does not flow to the market it is valued most, as a result of different market settings - including price caps - across the facilitated markets. Following the Review, AEMO agreed to present an options paper to the Gas Wholesale Consultative Forum (GWCF) to consider how best to address potential issues related to different market settings between the DWGM and STTM.

This paper investigates whether the current market settings are appropriate considering the events of winter 2022. However, it may be that no changes are required if the drawbacks of the options explored outweigh the benefits. AEMO seeks feedback from the GWCF on whether any of the options warrants further development.

2 Background

Events of winter 2022

In June and July 2022 the Declared Wholesale Gas Market (DWGM) was under an administered price cap (APC) while the Short Term Trading Market hubs (STTMs) were uncapped for the same period[1]. During this time, prices in the DWGM were suppressed below the opportunity cost (spot prices in other markets) and as a result, there was an economic incentive to divert supply from the DWGM to uncapped markets where prices were higher. This is a typical market response to an arbitrage opportunity – simultaneously exploiting market inefficiencies and typically resolving them in a short timeframe. However, constrained domestic supply conditions in the east coast gas markets and sustained high prices meant that market inefficiencies were not short-lived. These outcomes reinforced scarcity conditions in the DWGM and prolonged its administered state in winter 2022.

The market settings

[1] In the DWGM, an administered price cap applied from the 10am schedule on 30 May 2022 to 1 August 2022 at the 6am schedule. In the STTM, an administered price cap state due to CPT exceedance applied from 8 – 14 June 2022.

In the DWGM, the cumulative price threshold (CPT) is the trigger for automatic imposition of an administered price cap (APC). In the STTM, the CPT is one of the triggers for an APC state. APCs serve to protect price exposure for consumers by placing a limit[2] on exposure to extreme short-term price spikes that could adversely impact consumers and the stability of the energy market. In setting an APC, there is a trade-off between allowing market participants to respond to changes in market conditions[3] and mitigating extreme price risk and volatility.

The following table provides information on the CPT in each market.

Table 1 Cumulative price information for the DWGM and STTM

	CPT ($)	CPT horizon (STTM)/ Cumulative price period (DWGM)	Average price to reach CPT ($/GJ)
STTM	440	7 days	~63
DWGM	1,400	35 scheduling intervals[4]	40

As shown in Table 1, the average price required to reach CPT is lower in the DWGM ($40/GJ each schedule) in comparison to the STTM (~$63/GJ each gas day). This means that prices in the DWGM is more likely to be capped in comparison to the STTM when there is a long period of high prices across spot markets, as evidenced in winter 2022.

Stakeholders raised concerns that the inconsistency in market parameters increases the potential for inefficient market outcomes when gas prices are suppressed below opportunity cost. In the 2022 Gas Market Parameter Review, Market Reform concluded that no single common set of the market parameters (maximum market price, APC and CPT) could be applied across both the DWGM and STTM due to the different market designs including different frequencies and timeframes of scheduling.[5]

3 Options to address potential inefficiencies resulting from price caps

AEMO has considered several options below that could reduce or mitigate inefficient outcomes in the gas markets during tight supply conditions when prices in a market are suppressed below opportunity cost.

3.1 Multi-market cap trigger

A new administered price cap trigger event for the STTM and DWGM would allow simultaneous administering of two or more markets from the DWGM and STTM hubs. The proposed trigger event would be in addition to the existing trigger mechanisms[6] for application of an administered price cap. The trigger would be executed to reduce the potential for disorderly flows between the east coast gas markets by capping all markets at the same time.

To establish a new multi-market cap, the following will need to be determined:

- A clearly defined criteria for the new trigger;

[2] The current administered price cap for the DWGM and the STTMs is $40/GJ.
[3] In addition to allowing the market to respond, high prices during the period in which the APC applies should be a risk worthy of management.
[4] There are 5 scheduling intervals per day in the DWGM. The cumulative price period is 7 days if the first period is the 6am schedule.
[5] Market Reform, *Final Report on 2022 Gas Market Parameters*, February 2023.
[6] Rule 428 of the National Gas Rules for the STTMs and Wholesale Market Administered Pricing Procedures (Victoria) for the DWGM.

- The period that the cap would apply;
- Whether the cap would apply to all markets or a subset of the markets;
- Criteria for additional trigger should minimise situations where application of administered pricing could be counter-productive; and
- Once applied, clearly defined mechanisms and criteria to end the administered price cap state as soon as possible.

3.1.1 Potential triggers for the multi-market cap

The criteria for a multi-market trigger for extended duration of constrained supply conditions may include conditions such as:

1. One of the gas markets (most likely the DWGM) has entered into an APC state but APC has not been triggered in other markets in the east coast gas system;
2. Certain quantifiable measures that indicate the gas markets in the east coast gas system are in a more constrained supply state than usual. Measures may include the decrease in the volume of offers into the market, sustained high prices, price volatility and high shadow pricing[7];
3. Signs that indicate the market under administered pricing is suffering a detrimental impact that is not likely to be resolved within a reasonable period of time and may lead to sustained abnormal market conditions.

3.1.2 Emergency multi-market trigger for isolated events

As a more limited option, a trigger for a multi-market cap could be implemented to only be used when there is an east-coast emergency e.g. a major loss of supply or capacity event that would trigger in lieu of a market suspension[8]. The aim of this trigger would be to mitigate detrimental gas flows between markets during a period of supply uncertainty. Major loss of supply events may include issues with Longford gas production and material constraints on a major transmission pipeline.

The criteria for an emergency multi-market trigger may include the following conditions:

1. One of the gas markets has entered into an APC state due to technical or operational conditions in a pipeline or facility having materially affected the ability of Trading Participants on that gas day to:
   (i) Supply or withdraw natural gas at that hub; or
   (ii) Supply natural gas from the STTM distribution system to end users;
2. There is a major loss of supply event that satisfies the definition of an emergency as outlined in rule 333 of the National Gas Rules (NGR);
3. AEMO publishes a risk or threat notice under its Part 27 functions.

3.1.3 Pros and cons of a common multi-market cap

A common multi-market cap may promote market stability by minimising the opportunity for inefficient flows between the east coast gas markets in a situation where a market's price is suppressed below opportunity

[7] Scheduled price in the gas market but for the administered price cap.
[8] AEMO may declare the DWGM to be suspended when conditions outlined in rule 347 of the NGR are satisfied. However, AEMO does not have the power to declare the other east coast gas markets to be suspended.

cost (in the other spot markets) due to an APC. This option also provides broad protection to market participants and consumers from market risk by applying the administered price cap state to more markets.

However, application of a common cap does not address the underlying issue of a lack of supply, being offered to the STTM and DWGM, driving sustained high prices and may exacerbate the issue. Stakeholders have observed that a proposed multi-market trigger may imply an override of the existing CPT levels which serve to protect consumer price exposure to gas prices while balancing support for investment signals for gas peaking capacity[9]. An implication of applying a common multi-market cap to the events of winter 2022 is an effective lowering of CPT levels in the STTMs – which may already be operating efficiently at equilibrium. This would have reduced the ability of suppliers to offer peaking capacity into the STTMs given that an effective lowering of CPT reduces profits able to be made on peaking capacity.

3.2 Trigger to exit administered price cap

Instead of applying the APC to uncapped markets to address allocative inefficiencies, a trigger to exit the APC after the capped market has already entered the state for a period of time may improve alignment with prices in other markets. Given that prices in the DWGM will most likely be capped based on CPT before other markets, an option is for AEMO to review our Wholesale Market Administered Pricing Procedures (Victoria) and potentially introduce an additional trigger to exit the cap.

A drawback of this option is that it introduces a trade-off between addressing allocative inefficiencies and minimising market risk for participants operating in the capped market. Given that this option offers the opportunity to exit the price cap state earlier than intended, further investigation into the impact of this trigger on risk exposure will be required. We note that the criteria for such a trigger must be clear and predictable given the increased exposure to extreme price risk and volatility.

3.3 A DWGM trade-weighted cumulative price

In its submission[10] to the 2022 Gas Market Parameter Review, the Australian Energy Council raised the potential for a trade-weighted DWGM cumulative price to negate the need for a new administered price cap trigger. In a paper to GWCF meeting #39, AEMO canvassed a withdrawal imbalance-weighted cumulative price calculation. Table 2 summarises those results for the period 1 May – 30 July 2022.

Table 2 CPT exceedance in the DWGM based on different CPT calculations

	Existing CPT calculation	Proposed trade-weighted CPT calculation
Number of days of CPT exceedance	62 days	56 days
Consecutive days of CPT exceedance	30 May – 30 Jul	• 18 – 19 May • 30 May – 9 Jun • 16 Jun – 28 Jul

[9] Sources of gas that are higher cost, such as LNG storage.
[10] Australian Energy Council, *Submission to AEMO's Gas Market Parameter Review 2022: Draft Decision*, January 2023.

These results indicate that a trade-weighted DWGM cumulative price calculation would have had minimal impact in reducing inefficient market outcomes during winter 2022. Under the trade-weighted calculation, the administered price period in the DWGM would have ended only 2 days earlier and would not have applied from 10 – 15 June. Further, 56 days of DWGM CPT exceedance is still significantly higher in comparison to the Sydney STTM of 7 days and zero days in the Brisbane and Adelaide STTM. This highlights that there is still a significant price differential between the DWGM and the STTMs using this calculation.

3.4 Alignment of market parameter review process for NEM, STTM and DWGM

Inefficient market outcomes may also arise when prices in a gas market are supressed below the opportunity cost of gas-fired power generation in the National Electricity Market (NEM). Given the gas market parameter review is after the NEM parameter review[11], there may be a situation where market parameters, set in the NEM or gas markets, are set at levels that exacerbate the potential for inefficient outcomes in the other market.

In the 2022 gas market parameter review, there was stakeholder support for a single review panel process due to the interaction of the gas markets with the NEM. Market Reform took the position that aligning the review process for the market parameters would be logical – whether through a single review or for the review timings to be concurrent and interacting.

If this option is to be progressed, we must consider the differences in the nature of the markets – the NEM, STTMs and the DWGM – and the nature of the interactions.

4 Maintain status quo

Despite existing gas market parameters contributing to inefficiencies in the east coast gas markets in winter 2022, they provide targeted restrictions (such as the APC) at the required location. Other uncapped markets can operate unhindered which promotes market efficiency and provides the correct price signals. Suggested options above have the advantage of solving the identified allocative inefficiency however has the potential to introduce new market inefficiencies or increase extreme price risk and volatility. They may also have unknown impacts on long-term behaviour (including investment) in the gas markets given a change could significantly alter the risk profile in the market.

AEMO's new direction powers

Since the Market Parameter review concluded in early 2023, AEMO has been given new powers to aid in managing east coast gas supply adequacy in addition to the powers AEMO already has in Victoria. It is important to consider whether the direction powers under the NGL; Part 19 and Part 27 of the NGR is sufficient in minimising detrimental inter-market flows. These direction powers may be exercised when there are risks to gas supply reliability and adequacy with a focus on physical outcomes. In contrast, the market inefficiency issue present in winter 2022 was a market outcome resulting from a combination of factors with the root cause being tight supply conditions coincidental with high international commodity prices for gas and coal. It is unlikely that AEMO will be able to exercise direction powers to purely address market inefficiencies unless it leads to a physical issue of supply reliability and adequacy. However, it may not be necessary to adjust market settings if markets are forecast to be in physical short-fall due to disorderly inter-regional flows as AEMO could issue directions to mitigate any threats to supply adequacy[12].

[11] Clause 492(1)(g) of the NGR requires a review of the STTM market parameters no later than 6 months after the completion of the reliability standard and settings review under clause 3.9.3A of the National Electricity Rules.

[12] AEMO issued a Notice of a Threat to System Security for the period 11 July – 30 September 2022 due to the reduction in Iona gas storage supply capacity and the risk of supply shortfalls in the DWGM caused by Iona inventory depletion.

5 Next Steps and GWCF feedback

AEMO requests participant views by COB **23 October 2023** on the following**:**

- The best option to address inefficiencies in the east coast gas market considering the expected benefit/cost;
- Reasons for the preferred option;
- If there is support for the new multi-market trigger, principles and features the proposed new administered pricing trigger should reflect and the criteria for the trigger;
- Alternative options to reduce detrimental impacts on inter-market gas flows;
- Any other participant views and/or concerns.

AEMO will determine the next steps based on participant responses and will lead any further development of options. Please send any queries to gwcf_correspondence@aemo.com.au and libby.chen@aemo.com.au.