Review of the Victorian DWGM

Assessment of alternative market designs

Workshop 27 April 2017, Melbourne

AUSTRALIAN ENERGY MARKET COMMISSION

Agenda

1. Introduction
2. Gas trading options
3. Capacity options
4. Determining the best option, or combination of options
5. Close

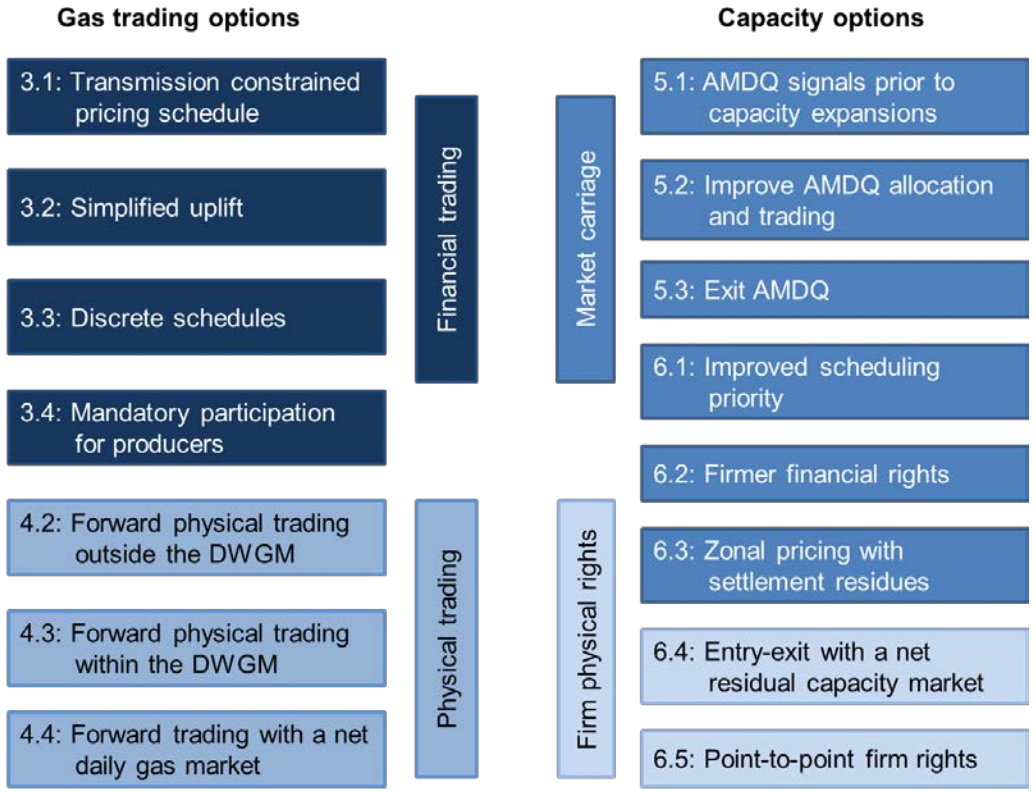
We will stop for breaks at 12pm and 2pm

Background

- The Victorian DWGM review is part of the broader east coast gas reforms, to achieve the following attributes:
  - effective risk management in the DWGM
  - efficient investment in, and use of, pipeline infrastructure
  - trading between the DWGM and interconnected pipelines
  - promoting competition in upstream and downstream markets
- AEMC published a draft final report in October 2016, which set out a draft model for a southern hub in Victoria
- We are now consulting on alternative options, including incremental options that address specific issues of the DWGM
- The draft model is still being considered as an option by the AEMC

Assessment of alternatives

- AEMC published an assessment of the alternatives on 30 March 2017
  - Options are explained individually (not as packages)
  - To meet the objectives of this review, a combination of options may be necessary
  - In chapter 7 of the discussion paper the AEMC noted other issues and options raised by stakeholders that do not appear to directly address the stated issues with the DWGM



Gas trading options

Constrained pricing schedule (option 3.1)

- **Currently**: the DWGM price is based on a schedule that does not take DTS system constraints into account
  - AEMO uses a separate operating schedule, which incorporates constraints, to physically operate the DWGM
  - Participants that are scheduled out of merit order receive ancillary payments, which are paid by those participants causing the system constraints
  - Any derivative settled against the market price would not protect a participant from the uplift charges
- **Option**: move to a single pricing and operating schedule (a transmission constrained pricing schedule)
  - The market price would reflect the price of gas offered by constrained on participants, similar to the NEM
  - This would simplify and increase the transparency of market prices, which could improve the utility of derivatives contracts against the spot price
  - Prices may be higher and more volatile, but may be hedgeable

Constrained pricing schedule (option 3.1)

Benefits of the option

- How and to what extent would this option help to improve the ability for participants to manage risk?
  - Would having a single market price help to develop a derivatives market?
- Would this option improve:
  - efficient investment in and use of the DTS
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Are stakeholders concerned that this may result in higher or more volatile prices?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Might there be unintended consequences, such as gaming behaviour?

Simplified uplift payments (option 3.2)

- **Currently**: DWGM uplift payments may be inhibiting the development of a financial derivatives market
- **Option**: congestion and surprise uplift would cease to exist and the associated costs would instead be recovered through common uplift (i.e. smeared across all participants)
  - The cost of ancillary payments would be incorporated into a single, per unit price
  - Participants could hedge against this overall price through derivatives contracts

Simplified uplift payments (option 3.2)

Benefits of the option

- How and to what extent would this option help to improve the ability for participants to manage risk?
  - Would having a single market price help to develop a derivatives market?
- Would this option improve:
  - efficient investment in and use of the DTS
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Are stakeholders concerned that socialising uplift payments could result in less efficient market outcomes?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

Discrete schedules (option 3.3)

- **Currently:** 5 schedules (6am, 10am, 2pm, 6pm, 10pm) – each are for the **balance of day**. AEMO is able to schedule gas across the day to meet a linepack target.
  - This results in a complex pricing exposure for individual participants. It is difficult to estimate exposure across the day and therefore difficult to hedge
  - It may be inhibiting financial trading
- **Option:** retain 5 schedules, but each schedule would be for the **discrete** 4 or 8 hour period (instead of balance of day).

	Current	Option
Schedule 1	6am – 6am	6am – 10am
Schedule 2	10am – 6am	10am – 2pm
Schedule 3	2pm – 6am	2pm – 6pm
Schedule 4	6pm – 6am	6pm – 10pm
Schedule 5	10pm – 6am	10pm – 6am

Discrete schedules (option 3.3)

- AEMO would manage linepack by ‘buying’ or ‘selling’ gas within each schedule – that is, scheduling more gas during times of low demand to increase linepack, so it is available during times of high demand.
  - Expect a positive inter-temporal settlement residue which could be returned to market participants
- Alternatively, there could be a market for linepack – participants could ‘buy’ or ‘sell’ into linepack to manage price risks.
  - Where demand for linepack capacity exceeds supply, there could be pre-allocated tie-breaking rights (analogous to AMDQ for transportation capacity)
- Expect prices would be smoothed over the day
- Deviation payments would be unchanged – the responsible participants would pay the next schedule price

Discrete schedules (option 3.3)

Benefits of the option

- How and to what extent would this option help to improve the ability for participants to manage risk?
  - Would discrete schedules help to develop a derivatives market?
- Would this option improve:
  - efficient investment in and use of the DTS
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Would stakeholders be interested in a market for linepack?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

Mandatory participation for producers (option 3.4)

- **Currently:** participants may enter into physical gas contracts outside of the DWGM.
  - This has resulted in producers selling physical gas to DWGM participants through bilateral trades, instead of directly participating in the DWGM
  - Producers have long term contracts and appear not to need to offer financial derivatives to manage their risks
  - There are few financial derivatives offered, limiting market participants' risk management options
- **Option:** participants would be prohibited from entering into physical contracts outside the DWGM. Like the national electricity market, all trades would have to occur through the DWGM.
  - Requiring producers to offer gas into the DWGM would create natural sellers of financial derivatives
  - Participants would be unable to physically hedge, but may have better access to financial derivatives

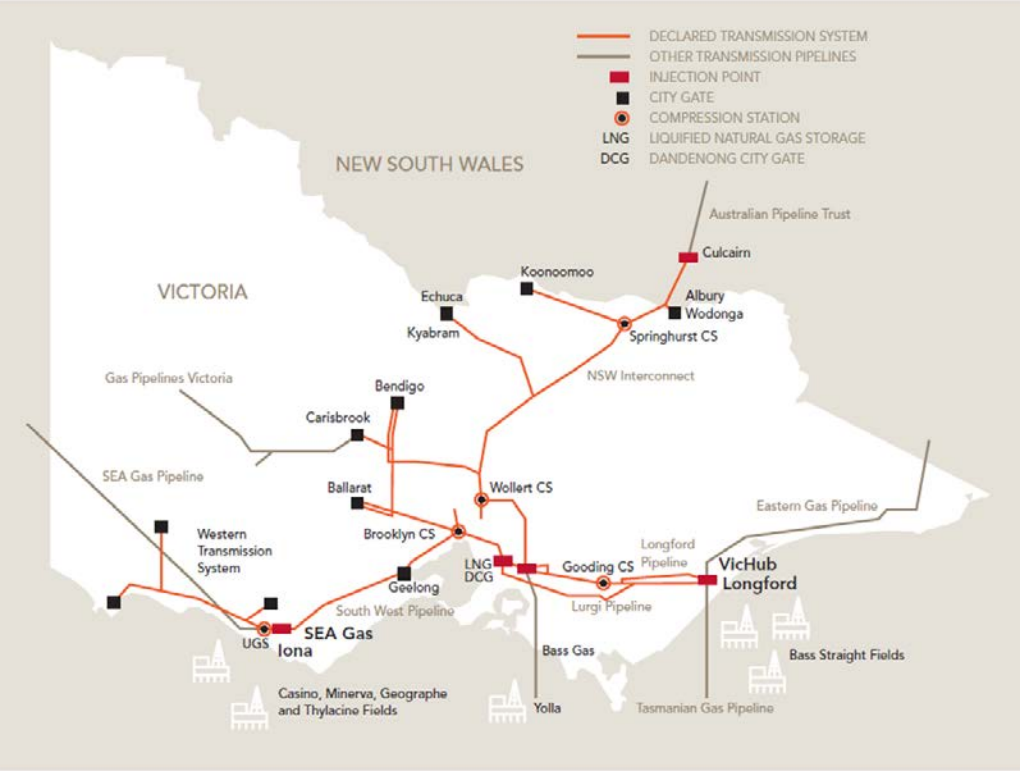
Mandatory participation for producers (option 3.4)

Gas trading options | Capacity options

- There are some challenges with the geographic extent of this option – that is, who would be required to comply

- Options for who must comply:

  1. Only producers that are 'on the edge' of the DTS (e.g. at Longford)
  2. All producers located within Victoria, and extend the DTS to cover all those interconnected pipelines across Victoria
  3. All producers located within Victoria, while leaving the DTS in its current form. Producers would be required to deliver all gas to the DTS for sale



Mandatory participation for producers (option 3.4)

Benefits of the option

- How and to what extent would this option help to improve the ability for participants to manage risk?
  - Would producers be likely to offer useful derivatives?
- Would this option improve:
  - efficient investment in and use of the DTS
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- How might the issue of the geographic extent of this option be best addressed?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

Improved trading outside DWGM (option 4.2)

- **Currently**: participants may enter into bilateral forward physical trades outside of the DWGM. However to be scheduled, participants must bid and offer gas into the daily DWGM process
- **Option**: forward physical trading outside the DWGM would be enhanced. This would be expected to reduce transaction time and costs associated with forward physical trading and could include:
  - standardisation of shorter-term gas contracts (for voluntary use)
  - improvements to the process by which gas is allocated to participants at DTS injection points
  - introduce one or more facilitated trading platforms at key points outside the DTS, such as at Longford
- As currently required, participants would then need to bid and offer gas into the daily DWGM to be scheduled, so access to the DTS would not be guaranteed

Improved trading outside DWGM (option 4.2)

Benefits of the option

- How and to what extent would improved forward physical trading help to improve risk management for participants?
- Would this option improve:
  - efficient investment in and use of the DTS
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

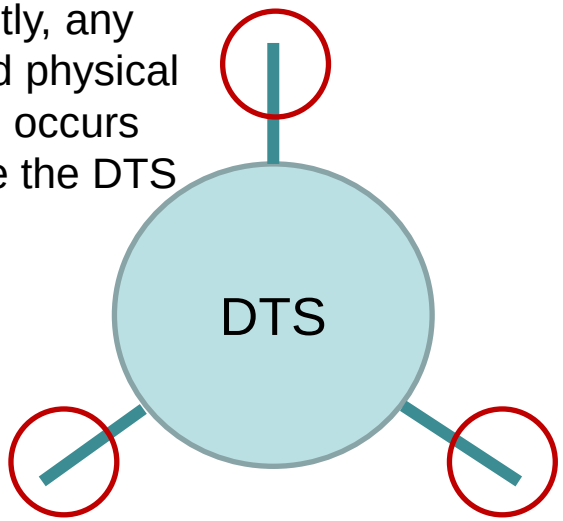
Implementation

- Are stakeholders concerned that forward trades are not guaranteed to be scheduled in the DWGM?
- Is the creation of another pricing point a concern because it may split liquidity?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

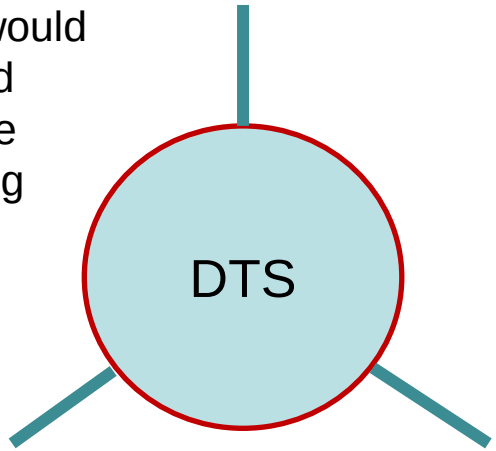
Forward physical trading integrated into the DWGM (option 4.3)

- **Currently:** participants may enter into bilateral forward physical trades outside of the DWGM. However to be scheduled, participants must bid and offer gas into the daily DWGM process
- **Option:** voluntary forward physical trading would be integrated into the DWGM scheduling process

Currently, any forward physical trading occurs outside the DTS

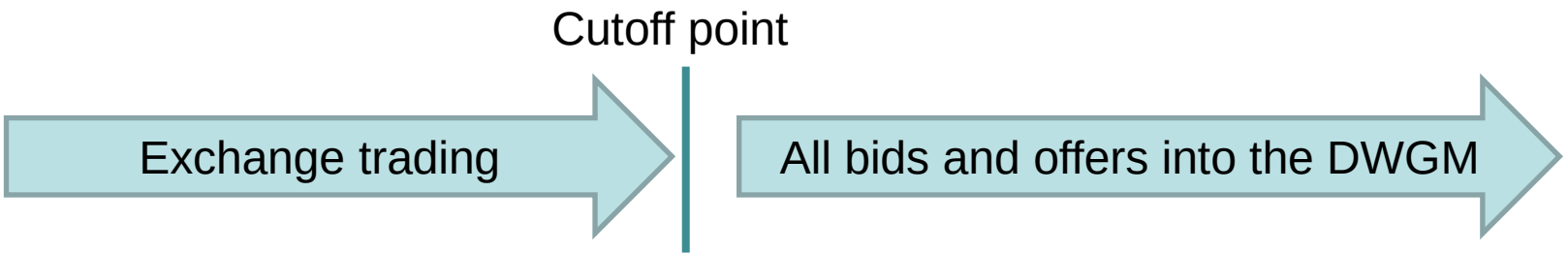


Under this option, physical trading would be at the DTS and integrated with the DWGM scheduling process



Forward physical trading integrated into the DWGM (option 4.3)

- Participants could trade through an exchange prior to the gas day, or through the DWGM on the gas day
- Exchange trading would be at the virtual hub – that is, trades could be matched anywhere on the DTS
- Exchange trades would be known by the market operator, and therefore the net positions of each participant could be integrated into the DWGM



Forward physical trading integrated into the DWGM (option 4.3)

- Two sub-options for how forward trades would be integrated into the DWGM process:
  1. Outstanding net positions are automatically bid or offered into the DWGM at the price cap or floor
     - For example, A sells 5TJ to B prior to the gas day. If that is their net position, the DWGM automatically receives an 'offer' from A for 5TJ at $0 and a 'bid' from B for 5TJ at $800
  2. Participants are responsible for managing their net positions in the DWGM
     - Participants could bid their net positions at the price cap or floor, or a different price, or not at all
     - Previously agreed trades would be incorporated into the DWGM, so if a participant does not close out its net position, it would effectively pay a deviation payment at the market price
     - In effect, to meet their pre-agreed trades market participants have the choice to inject/withdraw gas (subject to constraints) or source it through the spot market
- Access would be determined through the DWGM process (market carriage) and therefore is not guaranteed (for example during constraints)

Forward physical trading integrated into the DWGM (option 4.3)

Benefits of the option

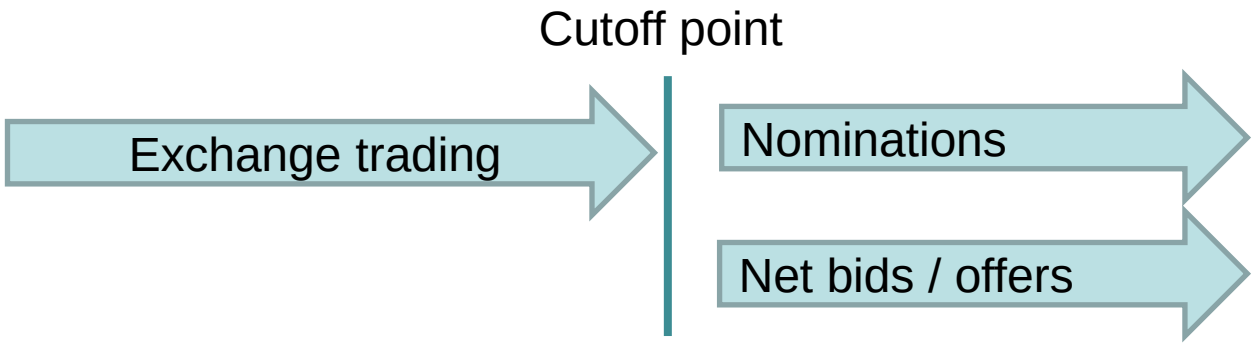
- How and to what extent would improved forward physical trading within the DWGM help to improve risk management for participants?
  - Noting this option may have the same outcomes as financial trading
- Would this option improve:
  - efficient investment in and use of the DTS
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Are stakeholders concerned that forward trades are not guaranteed to be scheduled in the DWGM?
- Why would this approach result in better outcomes than the existing derivatives market?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

Forward trading with a net daily gas market (option 4.4)

- **Currently:** participants may enter into bilateral forward trades outside of the DWGM. However to be scheduled, participants must bid and offer physical gas trades into the daily DWGM process. There is no guarantee that a participant will be scheduled
  - AEMO is able to balance the market through the intra day scheduling process
- **Option:** Instead of having a mandatory daily gas market (the DWGM), there would be voluntary forward trading complemented by a net daily gas market that would allow AEMO to balance the market
  - This option would likely be coupled with a capacity option that includes firm capacity rights with a net capacity market



Forward trading with a net daily gas market (option 4.4)

- Participants could trade gas through an exchange, prior to a cut-off point
  - Market participants would **nominate** injections and withdrawals at gate closure consistent with their pre-agreed trades plus spot requirements (to the extent they have firm capacity)
  - Market participants could also **provide bids / offers** for un-nominated gas into a daily net market (which would be scheduled based on the spare DTS capacity)
  - After gate closure, **AEMO would take balancing responsibility** using the daily net market
    - variations between market participants' nominations and actuals managed by drawing from bids/offers voluntarily made by participants through scheduled auctions
  - Market participants would be incentivised not to adjust their injections and withdrawals (other than to meet any trades made through the net market process)
    - I.e., market participants would be incentivised to trade to meet within day variations, rather than managing through their own portfolio

Forward trading with a net daily gas market (option 4.4)

Benefits of the option

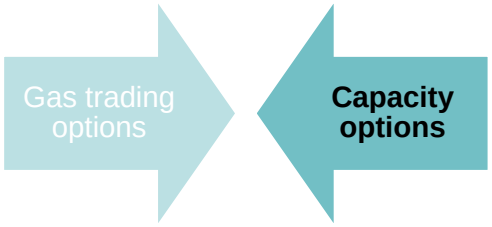
- How and to what extent would having firm forward physical trading help to improve risk management for participants?
  - Versus the status quo
  - Versus the draft model
- Would this option improve:
  - efficient investment in and use of the DTS
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Are stakeholders concerned that forward trades that are guaranteed to be scheduled may result in lower liquidity on the day?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

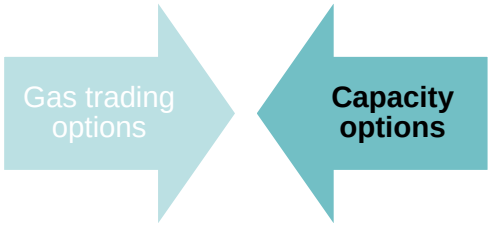
Capacity options

Market signalling for AMDQ cc prior to capacity expansions (option 5.1)



- **Current:** AMDQ cc is allocated to market participants after investment decisions regarding the creation of AMDQ cc have been made. Consequently there is a limited ability for market participants to signal, ahead of time, their willingness to purchase AMDQ cc in order to inform these investment decisions
- **Option:** this approach would require that AEMO's allocation process be undertaken prior to pipeline capacity expansions or extensions having occurred. This would allow the demand for AMDQ cc to inform, rather than follow, investment decisions
- A number of different approaches to allocating capacity rights prior to its creation were considered for entry and exit capacity in the draft model:
  - open seasons, which allow parties interested in obtaining either existing or incremental capacity to request capacity during a defined window
  - integrated auctions, which involve the auction of both existing capacity and varying levels of incremental capacity
  - hybrid open season-integrated auctions, which use open seasons to determine whether there is sufficient demand for incremental capacity to warrant carrying out an integrated auction

Market signalling for AMDQ cc prior to capacity expansions (option 5.1)



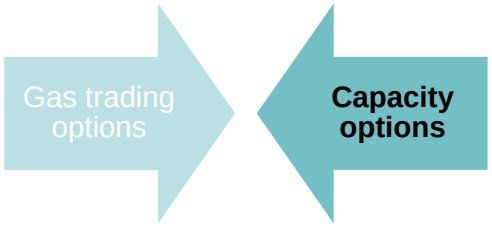
Benefits of the option

- How and to what extent would this option help to improve the investment signals in the DTS?
  - Is AMDQ firm enough to inform the regulatory investment decision making process?
- Would this option improve:
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

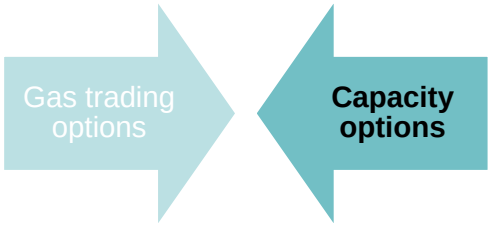
- Would participants be more interested in acquiring AMDQ cc compared to the current process? Why?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

Improve AMDQ and AMDQ cc allocation and trading (option 5.2)



- **Current:** AMDQ and AMDQ cc are tradeable capacity rights (with some limitations). However several issues are inhibiting efficient trading:
  - There may be high search and transaction costs to find suitable buyers or sellers
  - The processing time for transfers is not quick (6 days)
  - The transfer / nomination process is complex, with diversity and locational factors applied
- **Option:** introduce an electronic trading platform where market participants could anonymously post bids and offers to transfer all or part of their portfolio of financial and/or physical benefits associated with holding AMDQ to other market participants.
  - The platform would automatically match bids and offers and execute the trade
  - It could be similar to that recommended by the Commission in the east coast review stage 2 final report with regard to the trading of point-to-point capacity outside of the DTS

Improve AMDQ and AMDQ cc allocation and trading (option 5.2)



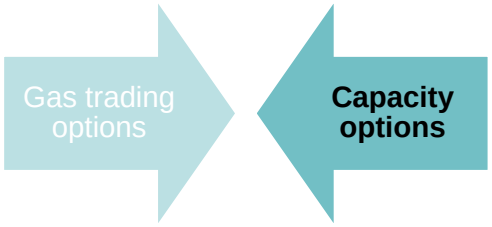
Benefits of the option

- Would this option improve the ability for participants to manage the risk of uplift hedges or physical congestion?
- Would this option improve the quality of decisions to invest in the DTS?
- Would this option improve:
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Would participants be interested in secondary AMDQ trades? Buyers and sellers?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

Exit AMDQ cc (option 5.3)



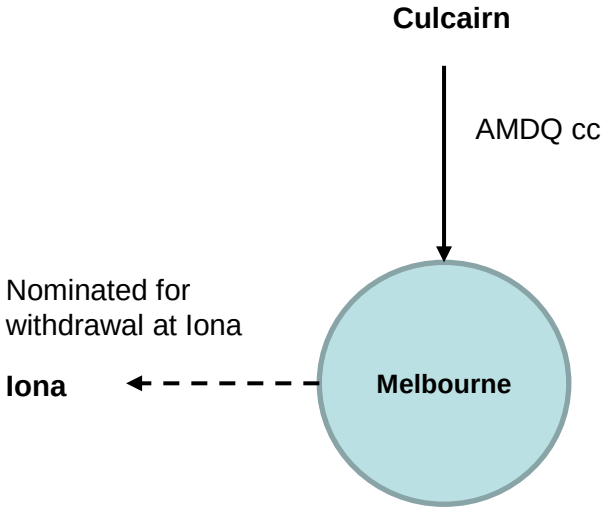
- **Current:** AMDQ cc is **initially** created as a point to point right between an injection point (e.g. Culcairn or Iona) and the reference hub at Melbourne. Market participants are **then** required to nominate their AMDQ cc to a withdrawal point (which may be the reference hub or a different location) on a **first come first served** basis
  - If a market participant A obtains new AMDQ cc created by an expansion, it would have no ability to ensure that another market participant B with existing AMDQ cc does not nominate to the relevant withdrawal point before participant A
- **Option:** new AMDQ cc could be created with a withdrawal point different to the reference hub. This could be achieved by:
  1. Removing the requirement for AMDQ cc to be automatically initially specified to the reference hub, and therefore allowing for the creation of rights between any injection point and any withdrawal point; or
  2. Creating rights between the reference hub and a withdrawal point (creating "exit" AMDQ cc) to mirror and complement existing ‘entry’ AMDQ cc from an injection points to the reference hub

Exit AMDQ cc (option 5.3)

Current

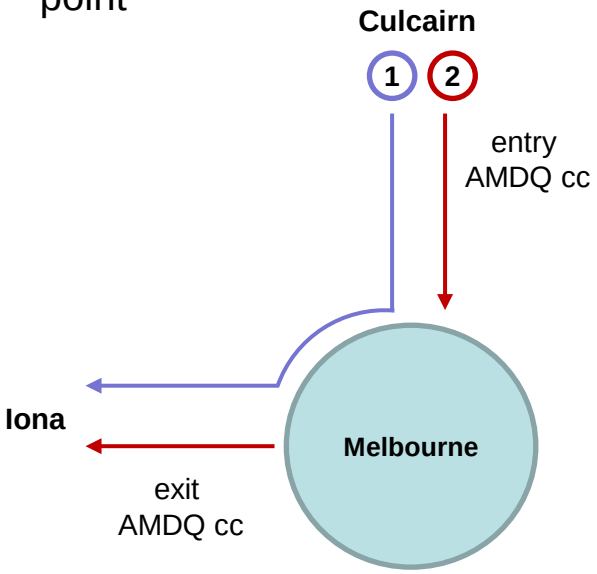
AMDQ cc is a point-to-point right, created from an injection point to the reference hub (Melbourne)

Market participant has the choice to nominated it for use at the reference hub or to a system withdrawal point (subject to transfer algorithm)

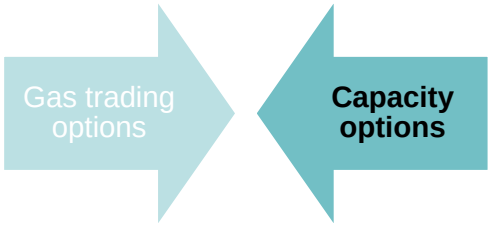


Option

1. Allow AMDQ cc to be created between an injection point and any withdrawal point, for new capacity expansions; or
2. Create “exit AMDQ cc”, where the right is created between the reference hub (Melbourne) and a system withdrawal point



Exit AMDQ cc (option 5.3)



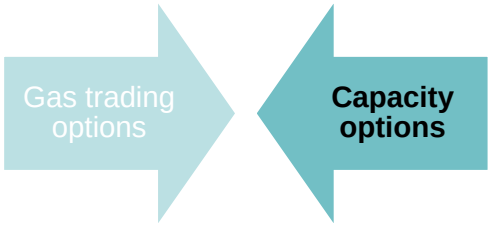
Benefits of the option

- How and to what extent would this option help to improve the investment signal in the DTS?
- Would participants have interest in acquiring exit AMDQ cc? Would it help participants manage risks?
- Would this option improve:
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Is AMDQ firm enough to inform the regulatory investment decision making process?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

Improved scheduling priority (option 6.1)



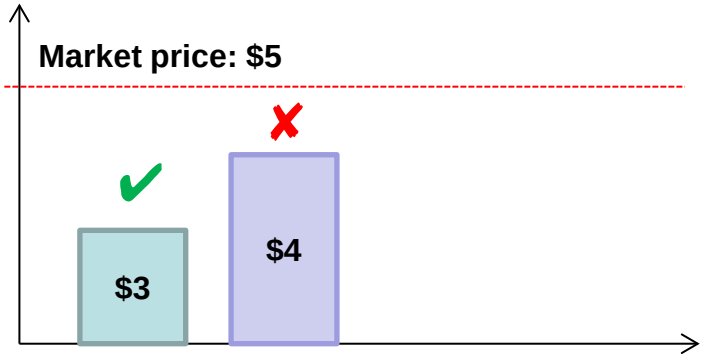
- **Current:** AMDQs currently provide market participants with limited physical scheduling priority, through tie-breaking rights and some protection against curtailment in the event of an emergency
- **Option:** the holder of capacity rights would be given improved relative scheduling priority
  - The rights holder would be scheduled in preference to non-rights holders, provided that the rights holder's offer (bid) price is less (more) than the market price
  - These rights would not be physically fully firm because the scheduling priority would be dependent on the market clearing price

Improved scheduling priority (option 6.1)

For example, in the event of a constraint, such that two market participants' gas cannot both be scheduled…

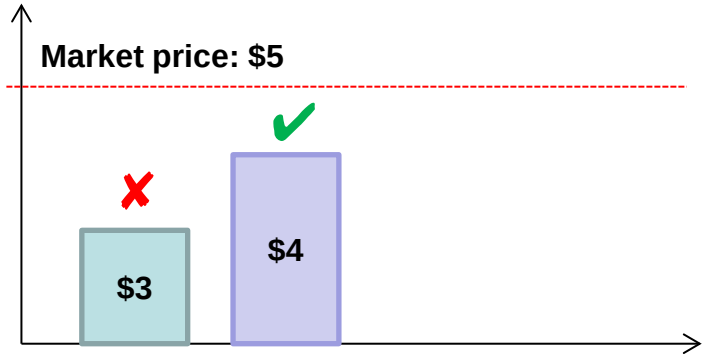
Current:

An AMDQ holder offering at $4 would not be scheduled in preference to a non-AMDQ holder offering at $3



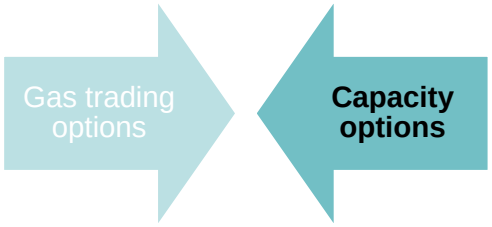
Option:

A $4 offer from a right holder would be scheduled in preference to a $3 offer from a non-right holder, if the market clearing price is $5



In this way, the altered rights would be slightly firmer than current AMDQ

Improved scheduling priority (option 6.1)



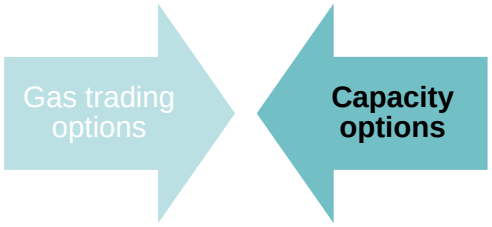
Benefits of the option

- How and to what extent would this option help to improve the investment signal in the DTS?
- Would this option improve:
  - the ability for participants to manage risk
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

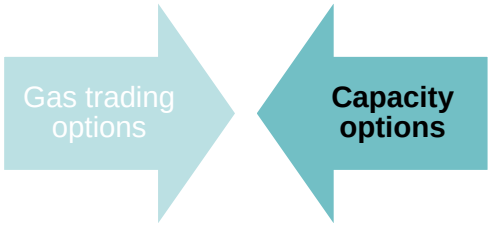
- Might this option reduce scheduling efficiency? How might this be mitigated against?
- How complex would the option be to implement and administer:
  - How complex is the option
  - What issues would need to be worked through / agreed
- Are there unintended consequences
- Would this option change the bidding behaviour of market participants? How?

Firmer financial rights (option 6.2)



- **Current:** AMDQs provide some physical and financial rights, but only to a limited extent
- **Option:** translating the existing AMDQ mechanism into firmer financial rights by
  - introducing different tariffing arrangements for use of the DTS depending on whether the market participants hold financial capacity rights. This discourages non-rights holders from attempting to be scheduled due to the high volumetric payment, hence providing greater likelihood of access to rights holders; and/or
  - compensating rights holders in the event that a non-right holder is scheduled ahead of them and they are constrained off
- Physical access could still be allocated through the market carriage approach

Firmer financial rights (option 6.2)



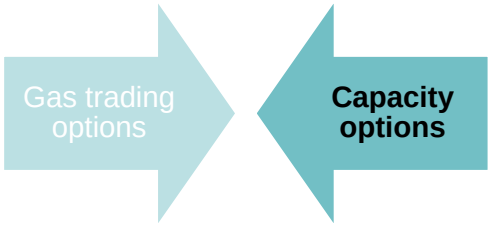
Benefits of the option

- How and to what extent would this option help to improve investment signals in the DTS?
- Would this option improve:
  - risk management in the DTS
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Are stakeholders concerned with the ability to set the right tariff levels? What effect might this have on:
  - Willingness to buy capacity rights
  - Scheduling efficiency?
- How complex would the option be to implement and administer:
  - How complex is the option
  - What issues would need to be worked through / agreed
- Are there unintended consequences

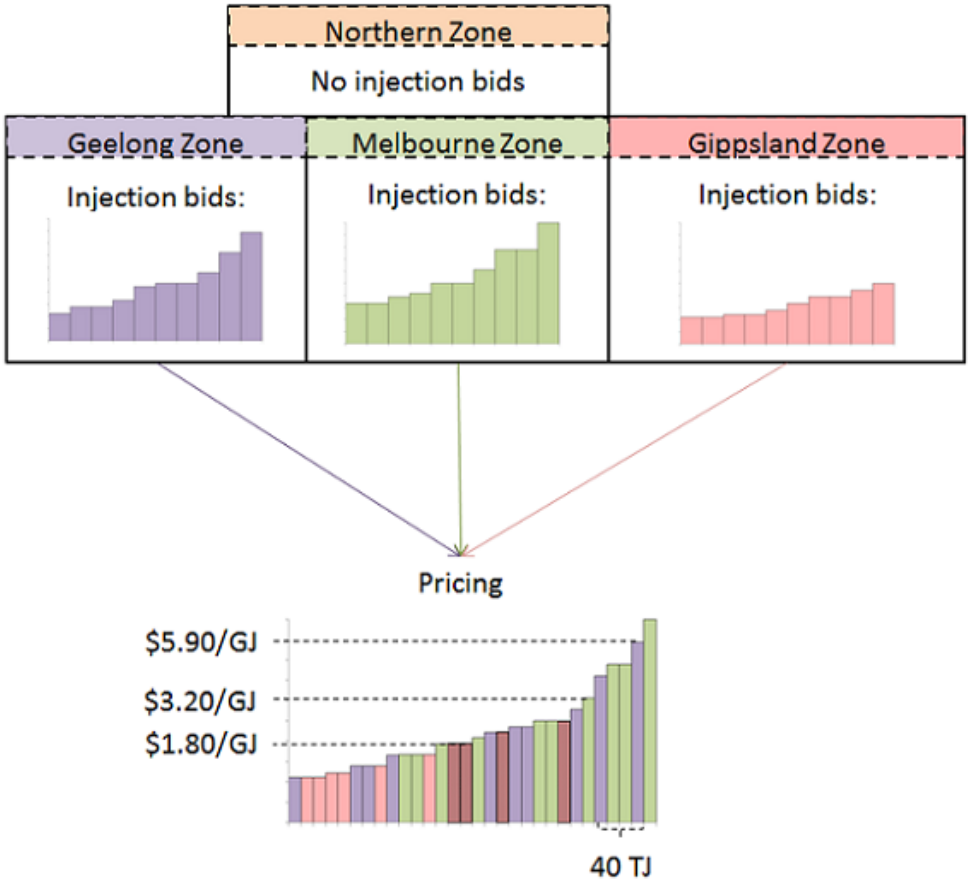
Zonal pricing with settlement residues (option 6.3)



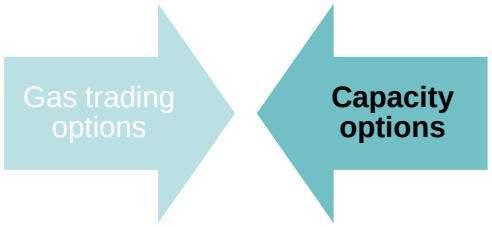
- **Currently:** there are limited market led signal for investment within the DTS to address constraints
- **Option:** create a number of different zones across the DTS with financial capacity rights between the zones. This is like inter-regional settlement residue units (a.k.a. SRAs) in the NEM
- To signal the cost of congestion between zones, there would likely need to be constrained pricing schedules in each zone (option 3.1)
- The schedule within each zone would in theory result in:
  - Equal prices where there are no constraints between zones
  - Price divergence where there are constraints between zones
- The inter-zonal capacity rights would grant holders a share of the settlement residue that arises when gas injected at one price in one zone is withdrawn at a different price at a different zone

Zonal pricing with settlement residues (option 6.3)

- Participants can buy financial capacity rights and the settlement residues would hedge against price risk between the zones
- Demand for financial capacity rights would indicate the need to invest in pipeline infrastructure **between zones**
- Demand for capacity **within zones** would not be signaled through this approach
- Physical capacity would still be allocated through the market carriage process (based on bids and offers)
- The appropriate number and location of zones would have to be carefully considered



Zonal pricing with settlement residues (option 6.3)



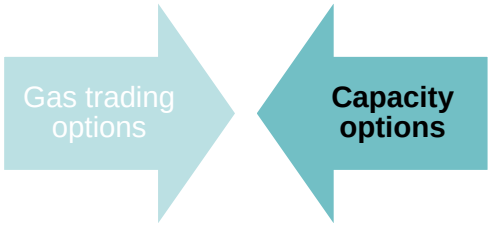
Benefits of the option

- How and to what extent would this option help to improve the investment signals in the DTS?
- Would this option improve:
  - the ability for participants to manage risk
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

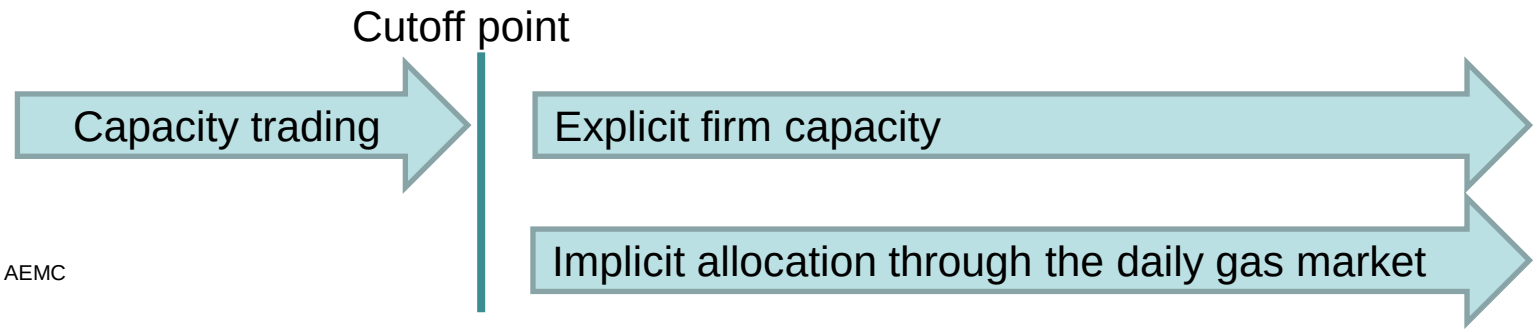
Implementation

- Would settlement residues provide a sufficiently firm hedge?
- Might the option split liquidity due to multiple pricing points?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

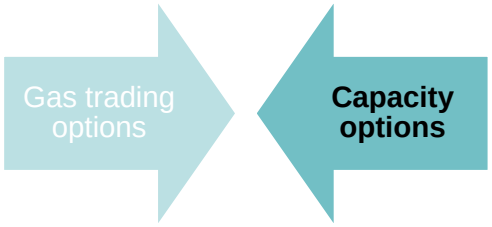
Entry-exit with a new residual capacity market (option 6.4)



- **Currently:** capacity is allocated implicitly through the daily DWGM scheduling process. Participants must bid and offer physical gas trades into the DWGM. However, there is no guarantee that a participant will be scheduled
- **Option:** Participants would be able to purchase or trade firm entry and/or exit capacity rights to the DTS prior to a cut-off point, and nominate gas consistent with those rights
- After the cut-off time, any un-nominated capacity would be implicitly allocated through a net commodity market
  - In effect, the existing operating schedule, which takes account bids, offers and constraints, would additionally take account of nominated flows consistent with pre-existing capacity rights
- This option could be coupled with a gas trading option that includes forward trading plus a net daily gas market (option 4.4)



Entry-exit with a new residual capacity market (option 6.4)



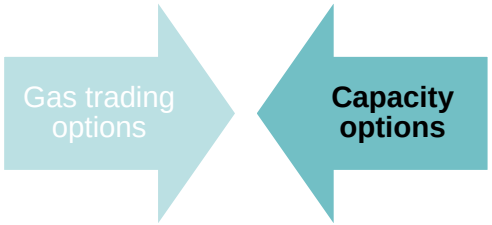
Benefits of the option

- How and to what extent would firm capacity rights help to improve efficient investment in the DTS?
- Would this option improve:
  - risk management for participants
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- What impact might this option have on scheduling efficiency?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

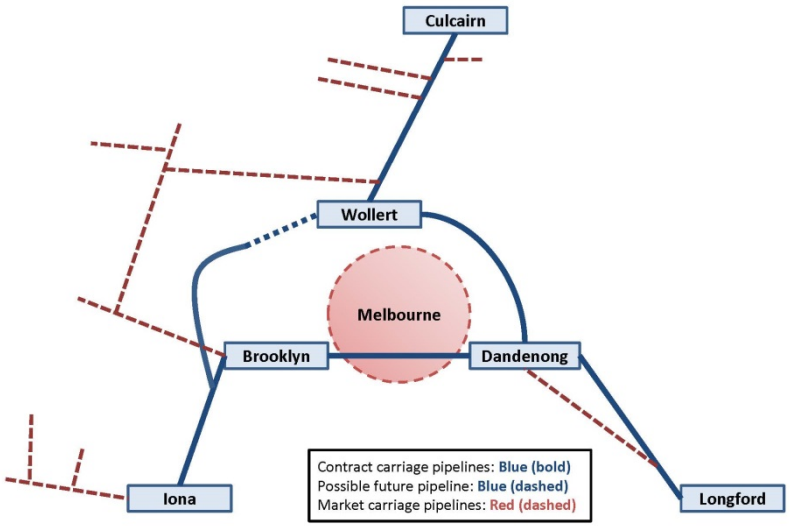
Point to point firm rights (option 6.5)



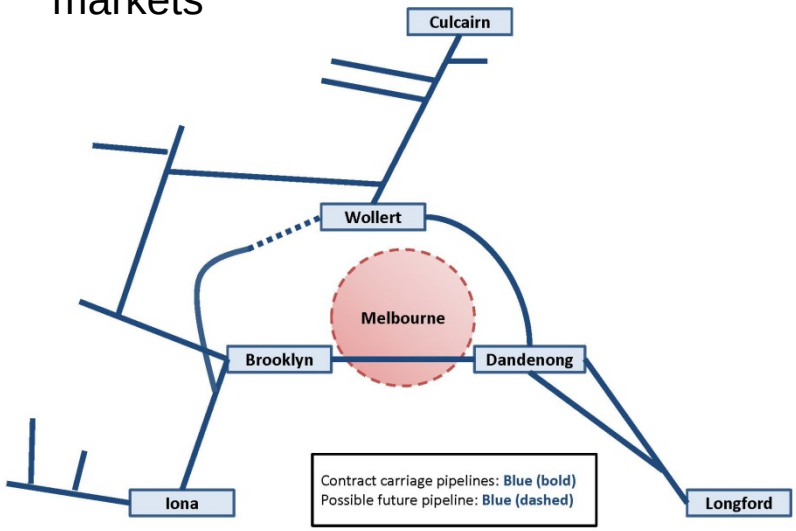
- **Currently:** AEMO is the sole user of the DTS (through the service envelope agreement with APA). AEMO uses the DTS capacity to operate the DWGM and is both the market operator and the DTS system operator
  - For participants to move gas through the DTS, they must be scheduled through the DWGM. However, there is no guarantee that they will be scheduled
- **Option:** AEMO would secure DTS capacity to operate the DWGM. However, APA would operate the system and could provide firm capacity to other participants
  - This would enable participants to transport gas through the DTS without having to participate in the DWGM. They could secure firm long term transportation contracts
  - If there is more demand for capacity than is available, participants could signal the need for more capacity by directly underwriting that investment

Point to point firm rights (option 6.5)

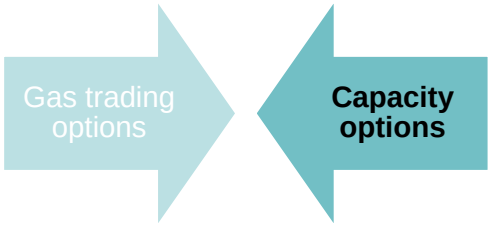
- **Sub-option 1:** contract carriage only available on the main high-capacity pipelines. AEMO would retain all of the capacity on the minor pipelines (plus its booked capacity on the major pipelines) to operate the DWGM



- **Sub-option 2:** contract carriage is available on all constituent pipelines. AEMO operates the DWGM with its booked capacity
- **Sub-option 3:** contract carriage is available on all constituent pipelines. No DWGM but potential balancing markets



Point to point firm rights (option 6.5)



Benefits of the option

- How and to what extent would firm capacity rights help to improve efficient investment in the DTS?
- Would this option improve:
  - risk management for participants
  - trading of gas between jurisdictions
  - upstream or downstream competition
- Any other benefits?

Implementation

- Which of the sub-options provides the most benefits?
- What impact might this option have on scheduling efficiency?
- How long would the option take to implement:
  - How complex is the option
  - What issues would need to be worked through / agreed
- How costly would this option be to implement
- Are there unintended consequences

Determining the best solution

Key principles

Capacity allocation

- There are trade offs between open access and firm physical capacity rights
  - We cannot improve certainty for some to access DTS capacity, without reducing the ability for others to access that capacity
  - Are participants willing to give up some open access in order to increase the firmness of capacity rights?
- To address investment signals, if options 5.1 to 6.3 are not effective or sufficient, options 6.4, 6.5 or the draft model (which introduce firm physical capacity rights) will need to be considered
  - What is the extent of the capacity investment problem in the DTS?

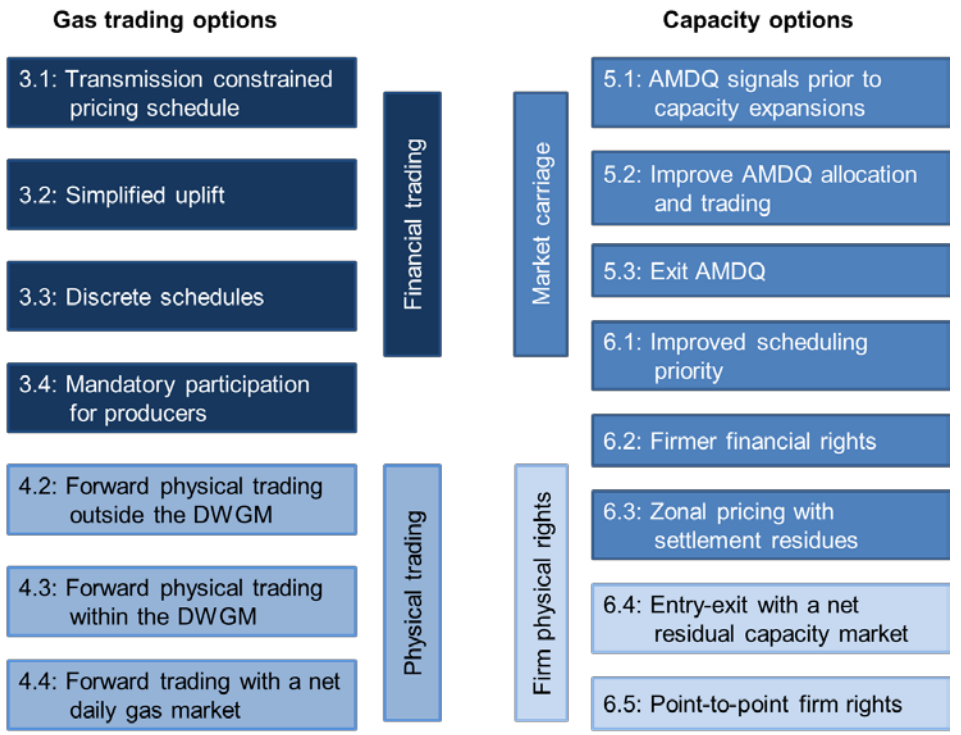
Key principles

Gas trading

- Should we improve physical trading, financial trading, or both?
  - Which would be most effective / useful for risk management in the DWGM?
- Do stakeholders have a preference between:
  - Option 4.1 – trading outside the DWGM
  - Option 4.2 – trading inside the DWGM

Examples of packages to generate discussion

1. ‘Incremental’ options (Origin)
   - Transmission constrained pricing
   - Forward physical trading market
   - Firmer financial rights
   - Consider DTS zones
2. ‘Incremental’ options
   - Improvements to AMDQ (options 5.1, 5.2, 5.3 AND 6.1)
   - Improved risk management (option 4.2 OR 4.3)
3. Transitional to the AEMC’s draft model (4.4 and 6.4)
4. … any other thoughts?



Reforming the DWGM

Current state of play

- DWGM model performs well in a number of key areas.
  - Gross pool drives liquidity, aids market transparency, provides for efficient system balancing and facilitates competition.
  - Market-carriage arrangements remove barriers to access and encourage new entry.
- But there are areas for improvement.
  - Avenues for managing pricing risk are limited.
  - Signals/incentives for investment in pipeline capacity could be improved o facilitate more market-led investment.

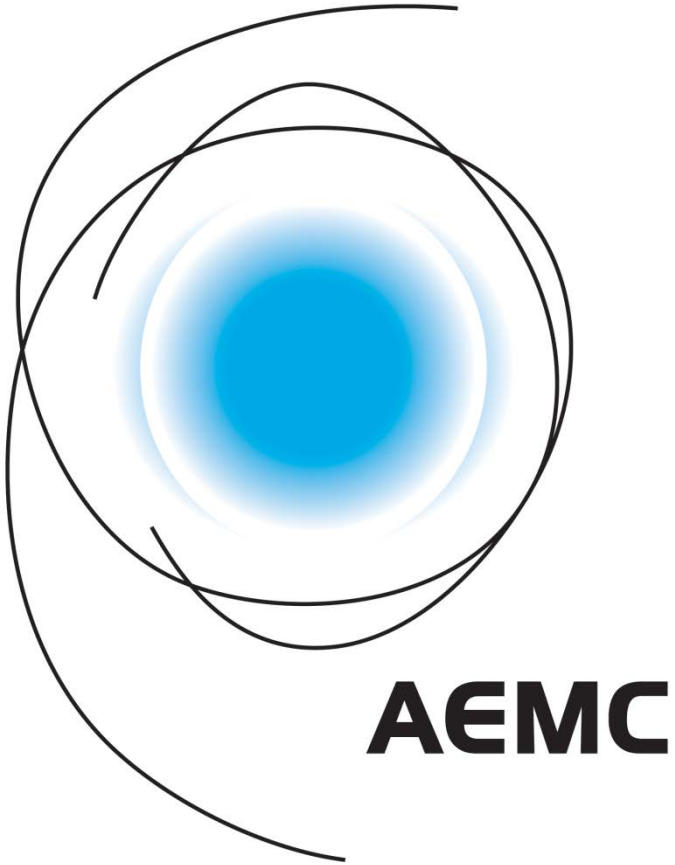
Package of reforms – addressing areas for improvement

1. **Transmission constrained pricing schedule**
   - 'Cleaner' market price.
   - Facilitate the development of financial derivatives market to manage risk.
2. **Forward physical trading market**
   - Provide additional market transparency.
   - Improve opportunities for trading longer dated products.
   - Improve consistency with GSH and opportunities for trade across markets.
3. **Firmer financial rights for AMDQ(cc)**
   - Improve signals for market-led investment.
4. **Zonal pricing**
   - Improve locational price signals and market transparency more generally.
   - Better signal and compartmentalise costs of congestion.

Conclusion

Next steps

- Submissions on the discussion paper are due 11 May 2017. Seeking feedback on:
  - The benefits of each option – whether and how each option addresses the issues with the DWGM
  - Issues that may require further thought prior to implementation
  - How options could be combined to best address the issues with the DWGM
- We plan to provide a final report to COAG Energy Council for its consideration in July 2017
  - the final report will be published shortly thereafter


AEMC