Transmission access reform
TWG #2

29 April 2024

AEMC

Meeting agenda

	Introduction	Slides 1 – 4	Victoria Mollard | EGM
	Competition protocols	Slides 5 – 6	Victoria Mollard | EGM
1.	Briefing: consultation paper	Slides 7 – 17	Jessie Foran | Senior Adviser
	Testing and modelling of priority access		Tom Meares | Senior Adviser
	Priority access		Phillip Munro-Laylim | Adviser
	Congestion relief market		Victor Stollmann | Senior Adviser
	Key stakeholder issues		Jessie Foran | Senior Adviser
2.	Initial feedback and discussion	Slides 18 – 29	Sebastien Henry | Director
3.	Next steps	Slides 20 – 21	Sebastien Henry | Director
	Meeting close		

ACKNOWLEDGEMENT OF COUNTRY

The AEMC acknowledges and shows respect for the traditional custodians of the many different lands across Australia on which we all live and work. We pay respect to all Elders past and present and the continuing connection of Aboriginal and Torres Strait Islander peoples to Country. The AEMC office is located on the land traditionally owned by the Gadigal people of the Eora nation.

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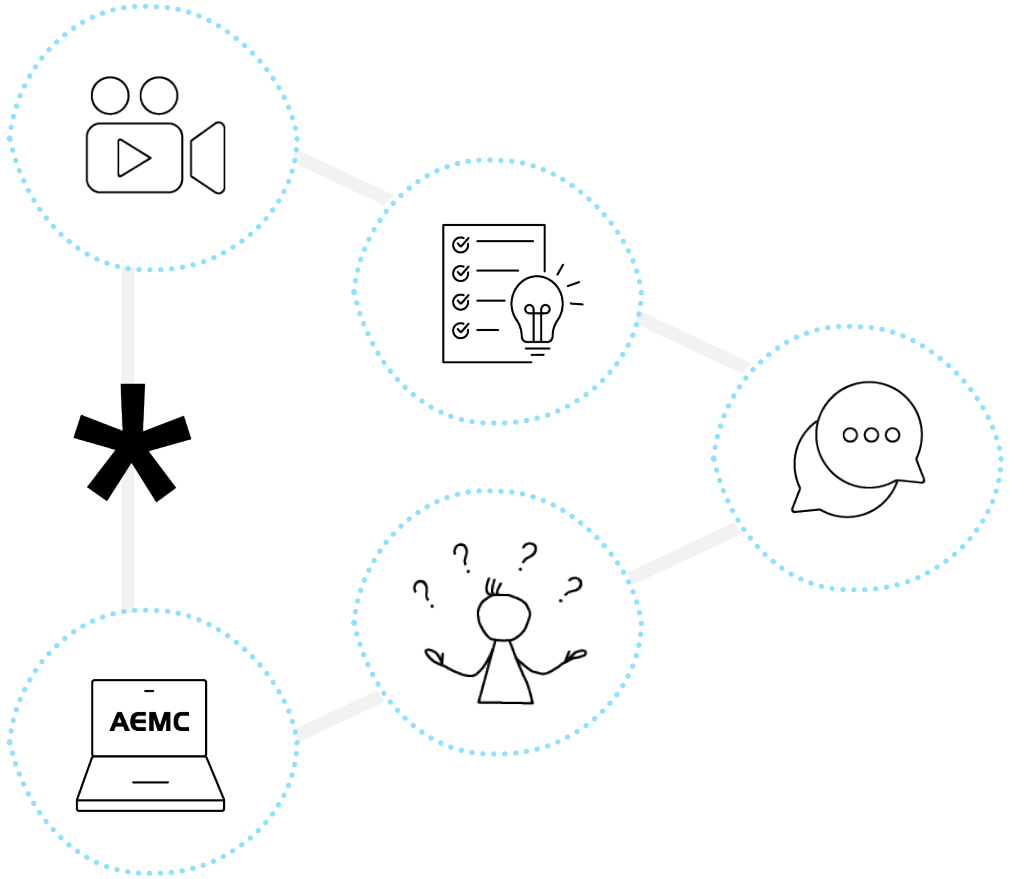

COMPETITION PROTOCOL

KEY PRINCIPLES

The AEMC is committed to complying with all applicable laws, including the ***Competition and Consumer Act 2010*** (CCA), during this forum. Breaching the CCA can lead to serious penalties for individuals involved in any breach (including large financial penalties and imprisonment for key individuals involved). This protocol governs the way in which discussions will proceed at this forum, and each attendee agrees to adhere to this protocol in order to comply with the CCA.

Each attendee must make an independent and unilateral decision about their commercial positions and approach in relation to the matters under discussion in this forum.

Attendees must not discuss, or reach or give effect to any agreement or understanding which relates to:

- **pricing** for the products and/or services that any attendee supplies or will supply, or the terms on which those products and/or services will be supplied (including discounts, rebates, price methodologies etc)
- **targeting (or not targeting) customers** of a particular kind, or in particular areas
- **tender processes** and whether (or how) they will participate
- any decision by attendees:
  - about the purchase or supply of any products or services that other attendees also buy or sell
  - to not engage with persons or the terms upon which they will engage with such persons (i.e. boycotting); or
  - to deny any person's access to any products, services or inputs they require
- **sharing competitively sensitive information** such as non-publicly available pricing or strategic information including details of customers, suppliers (or the terms on which they do business), volumes, future capacity etc
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COMPETITION PROTOCOL

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This forum will be conducted in accordance with the following rules:

- The agenda for this forum does not include anything that could contravene the Key Principles set out in this protocol.
- We will read and minute the below *competition health warning*:
  - Attendees at this forum must not enter into any discussion, activity or conduct that may infringe, on their part or on the part of other attendees, any applicable competition laws. For example, attendees must not discuss, communicate or exchange any commercially sensitive information, including information relating to prices, marketing and advertising strategy, costs and revenues, terms and conditions with third parties, terms of supply or access.
  - Participating in this forum is subject to you having read and understood the protocol including the Key Principles.
- We will keep accurate minutes of the forum, including details of attendees.
- If something comes up during the forum that could risk contravening any competition laws, attendees should:
  - Object immediately and ask for the discussion to be stopped.
  - Ensure the minutes record that the discussion was objected to and stopped.
  - Raise concerns about anything that occurred in the forum with their respective legal counsel immediately afterwards.
- All attendees understand that any competitively sensitive matters must be subject to legal review before any commitment/agreement can be given.
- Any decision about whether, and on what terms, to engage with customers and suppliers is an independent and unilateral decision of each attendee.

Briefing: Consultation paper

We published a consultation paper on 24 April 2024

The main sections of the consultation paper outline:

- problems and drivers for reform
- the hybrid model that is the current preferred option for access reform
- testing and modelling of transmission access reform
- key design options for priority access and the CRM
- key stakeholder concerns
- detailed design questions for priority access and the CRM.

We understand that TWG members may not have been able to read and digest the consultation paper in-depth prior to this TWG meeting.

As such, we are briefing TWG members on the consultation paper with a focus on certain areas we would like to discuss and seek initial feedback.

Testing and modelling of transmission access reform

ESB Cost-benefit analysis (2023)

In February 2023, the ESB conducted a cost-benefit analysis and found that the introduction of the hybrid model would result in $2.1-5.9 billion in benefits for consumers, and 23 million tonnes of emissions reductions (quantified at $1.6 billion as per current value of emission reduction).

The CBA was undertaken at a point in time for the purposes of informing an assessment of access reform options against each other and the status quo. We consider the broad directions costs and benefits support further development of a hybrid model.

We are seeking feedback on whether different assumptions, or the effect on the CBA of specific design elements of the hybrid model, would influence how we progress the work of this review.

Prototyping of the hybrid model

In late 2023, AEMO tested whether the hybrid model could be implemented in NEMDE using a prototype.

This prototype was also used to test how priority access might affect dispatch outcomes.

These test cases considered historic dispatch intervals for highly congested areas and assumed that certain generators were 'new entrants'.

For these test cases, we found that priority access:

- Generally delivered the desired directional change in dispatch, however the magnitude of change was difficult to predict.
- Produced some counter-intuitive results due to multiple constraint interactions.
- Led to some increases in RRP relative to current arrangements (where cannibalisation can occur).

We have been asked to explore whether alternative implementation approaches could address the issues that arose in the testing.

Modelling investment decisions

We have engaged ACIL Allen to improve our understanding of the practicalities of priority access for investors.

Broadly, we are considering:

- Can investors include priority access in congestion modelling to contribute to investment cases?
- Would priority access likely have the desired impacts on investment decisions?

This workstream is currently ongoing.

The results of this work will be shared and discussed with the TWG in May.

Priority access – key design options

The consultation papers outlines four options for allocating priority access:

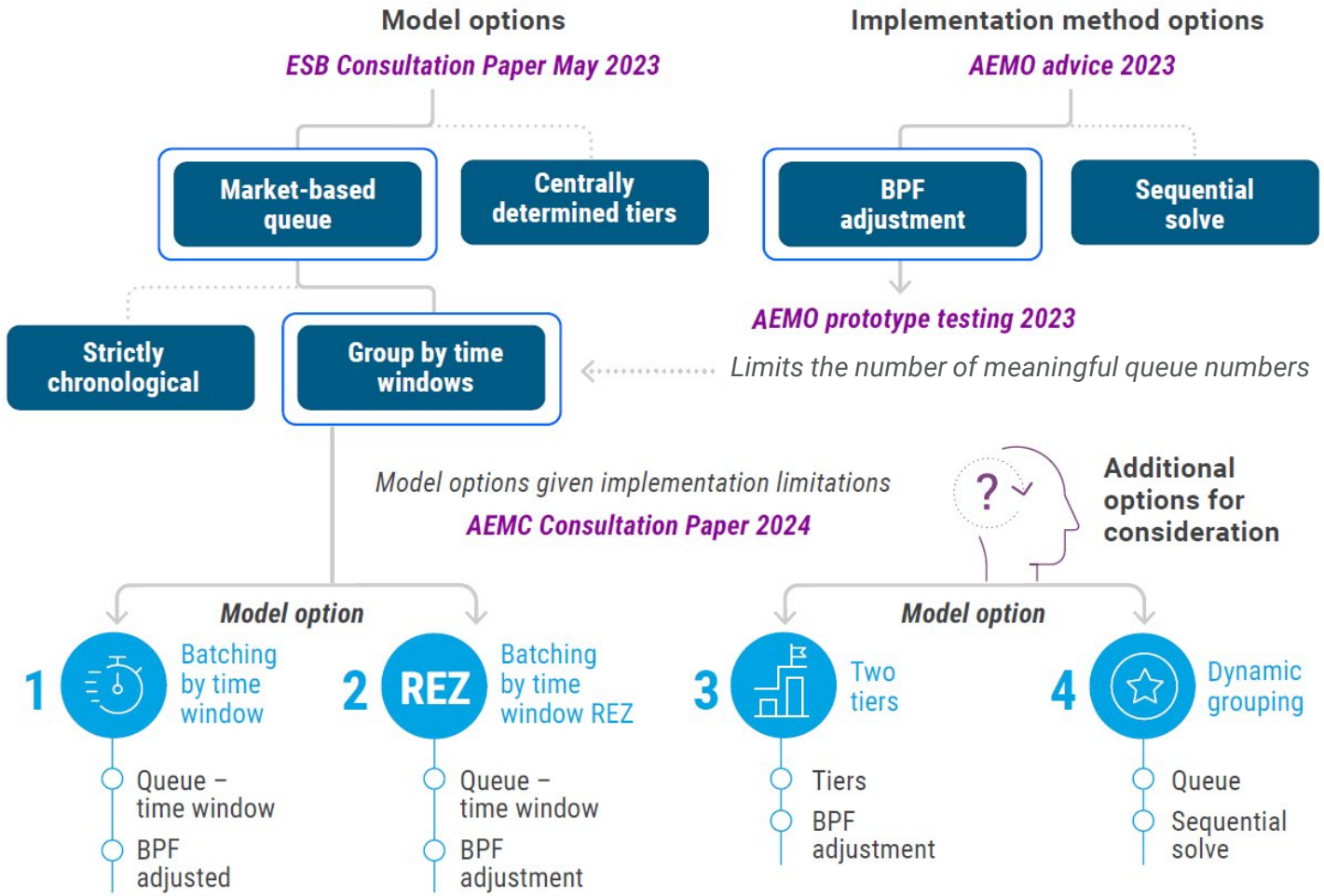
1. Grouping by time-window
2. Grouping by time-window with REZ preferences
3. Two centrally determined tiers
4. Dynamic grouping.

Our current preference is for option 1 (grouping by time-window) as it is simple and mechanical, and we consider it would have the desired effects.

We also consider option 4 (dynamic grouping) may have merit in providing harder priority access that is strictly chronological. However, this option is not as developed as other options.

We are interested in stakeholder views.

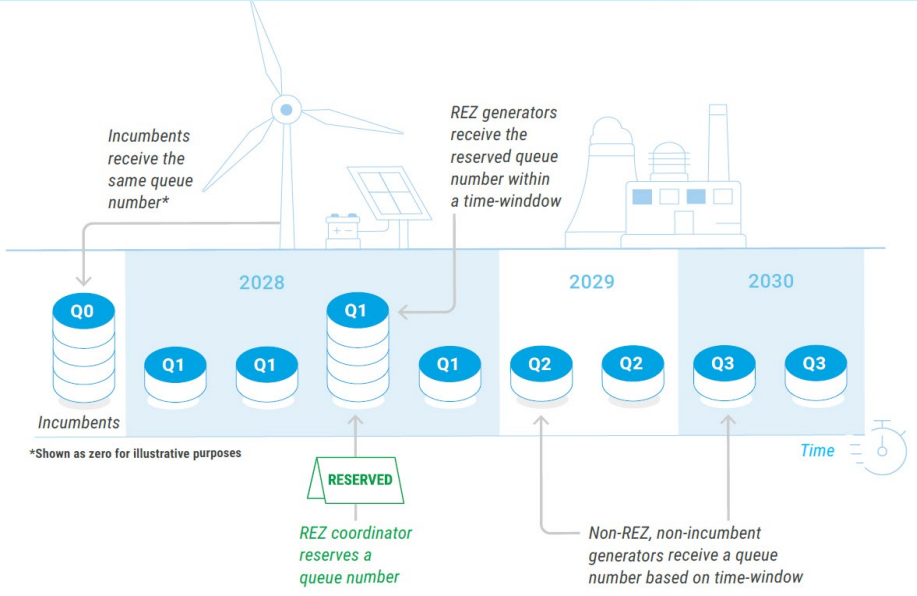
The options are outlined in greater detail on the next slides and in chapter 4 of the consultation paper.



Priority access – key design options

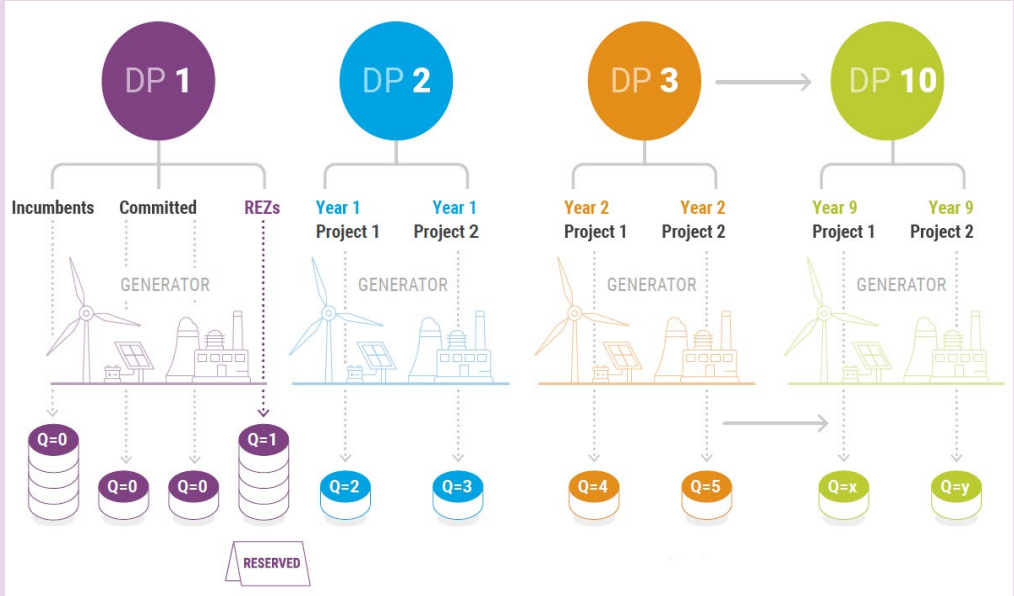
Option 1 – grouping by time-window (preferred option)

- There would be 10 priority levels with corresponding bid price floors.
- Participants would get grouped into priority levels in annual batches, based on when they connect or when their REZ reached some point in the planning process.
- Each group would move up a priority level each year, before pooling in the highest priority level for the duration of priority access.



Option 2 – grouping by time-window REZ

- This is identical to option 1, however REZs (and REZ generators) are immediately placed in the highest priority level.

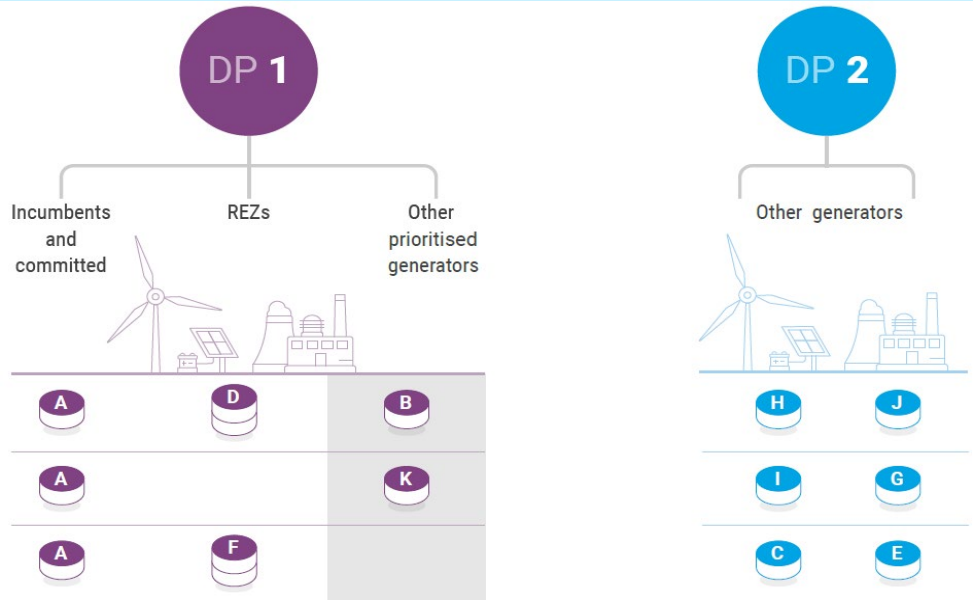


A detailed example of grouping by time window is available in appendix A.

Priority access – key design options

Option 3 – two-tiers

- Jurisdictions or a central body would either prioritised or deprioritise generators by separating them into two priority levels (i.e. two tiers).
- Prioritised generators would likely be:
  - incumbents and committed plant
  - generators in REZs
  - other generators that may be desirable to prioritise.
- All other generators would be deprioritised.



Option 4 – dynamic grouping

- Dynamic grouping could provide harder priority access (compared to other options) and provide a strictly chronological prioritisation approach.
- A sequential dispatch algorithm would be run sometime before dispatch to progressively prioritise or deprioritise generators based on when they connected and whether their dispatch would need to be constrained to avoid constraint violations.
- Using only two BPFs allows priority access to be harder.
- This option has not been tested – it is a newer option that would require further development if it is a preferred option.

A detailed example of dynamic grouping is available in appendix A.

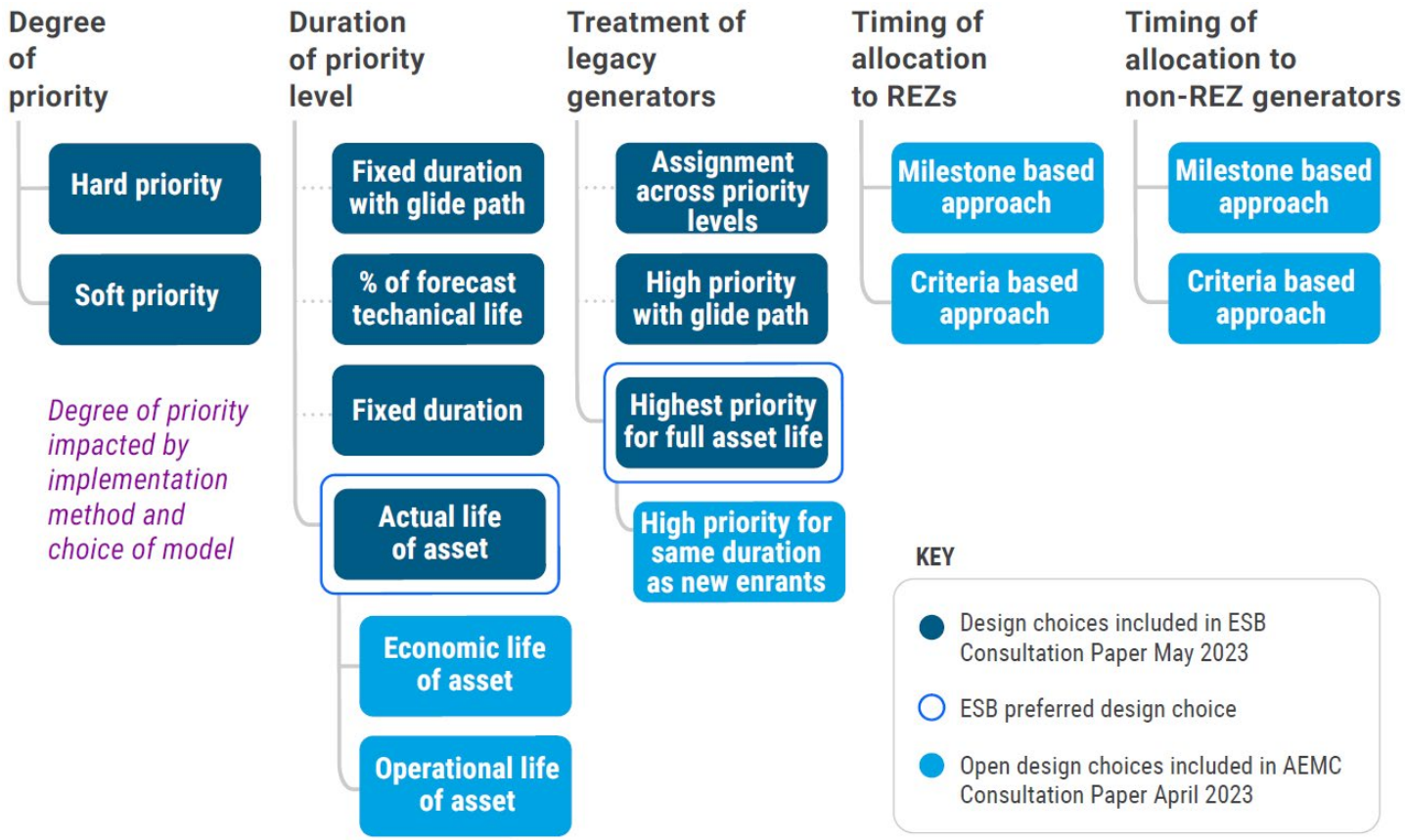
Priority access – detailed design choices

We are also considering various detailed design options for priority access.

Some of these design choices were consulted on by the ESB and discussed with the ESB TWG in 2023.

Our current preferences are aligned with ESB preferences, however we are also consulting on these detailed options.

Refer to Chapter 7.1 of the consultation paper for more information.



CRM – two-stage dispatch

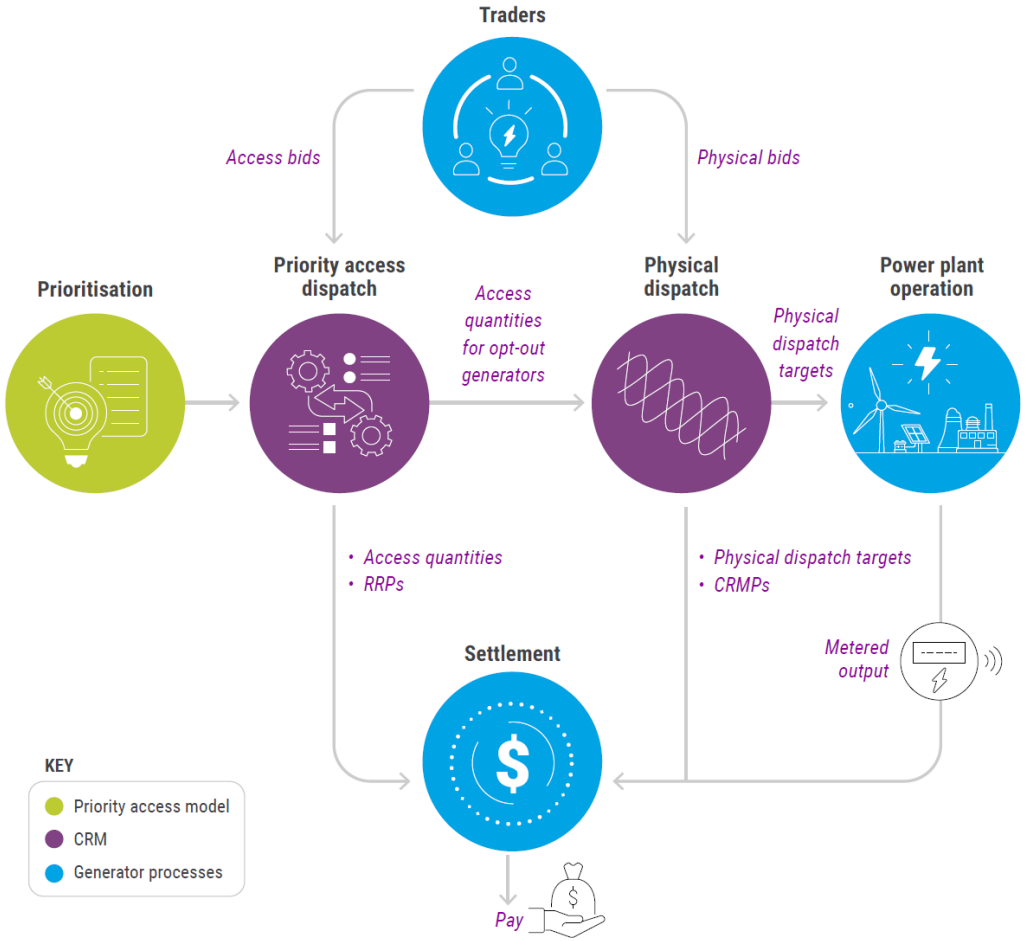
The current design of the CRM is implemented via a two-stage dispatch approach, which has been shown to work:

1. An access dispatch run (previously known as EN dispatch) would determine access quantities and include priority access. Generators who do not opt-in to the CRM would be physically dispatched and settled on this dispatch run.
2. A physical dispatch run (previously known as CRM dispatch) would determine the physical dispatch quantities for CRM participants.

Due to there being two dispatches, there were two RRPs choices for settlement. There can be issues from using either choice:

- The access RRP may occasionally be increased by priority access and could add some complexity to settlement for CRM participants
- The physical RRP could deliver pricing inconsistencies for non-CRM participants and may reduce the ability for generators to opt-out.

We (and the ESB) prefer the access RRP, as we consider that the physical RRP would impact the voluntary nature of the CRM. Further, that the increases to the RRP could be offset by benefits from better locational decisions when investing in new generation.



CRM – co-optimisation

In late 2023, the ESB began considering an alternative implementation option for the CRM that might avoid the issues of either RRP in the two-stage dispatch.

This led us to consider co-optimising the access and physical dispatches via a single co-optimised dispatch run. This is similar to the co-optimisation of energy and FCAS.

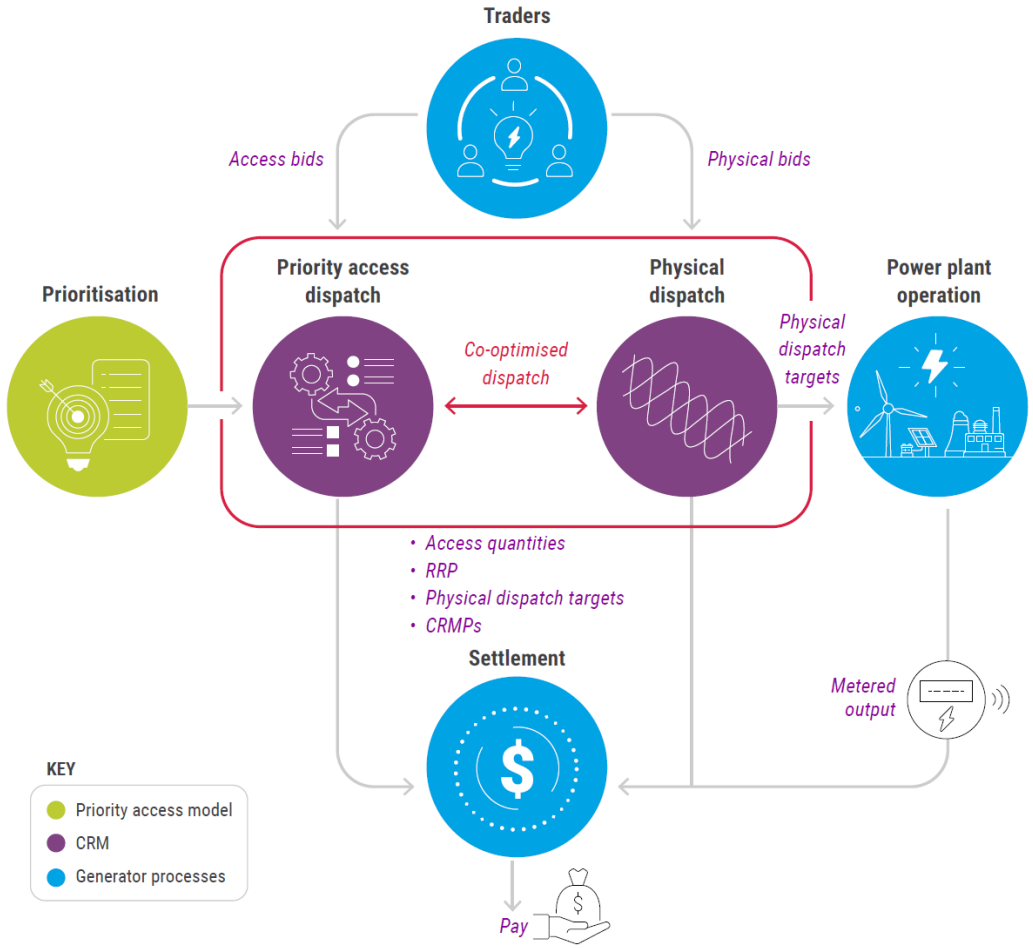
Only one RRP would be produced, based on the marginal cost of physical generation (originating from either access or physical dispatch) that could:

- Provide pricing consistency for non-CRM participants
- Not be increased due to priority access.

We recognise that CRM would affect how the RRP would be set, as both dispatches would take each other into account.

We also note that AEMO has some concerns, including that it would be more costly and complex to implement in NEMDE, there may be impacts on settlement residues and concerns over whether CRM bidding in the co-optimised dispatch could undermine priority access. We are working through the potential impact of these concerns. We also recognise that this implementation approach hasn't been tested unlike the two stage approach

Overall, we are interested in your views on both the two-stage dispatch and co-optimised dispatch.



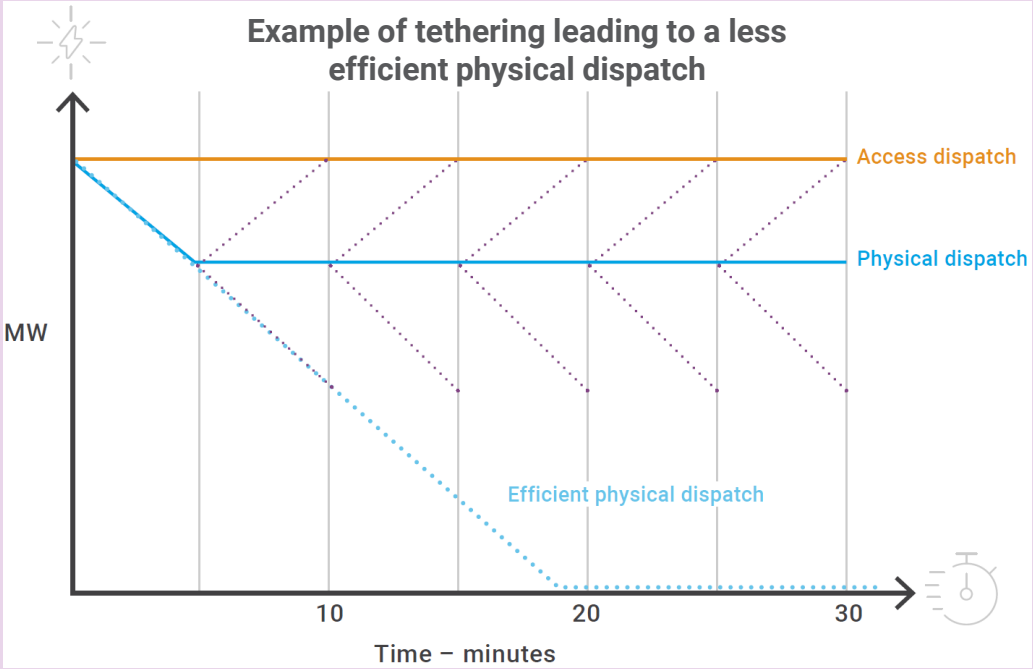
CRM – detailed design choices

In 2023, the ESB consulted on several detailed design choices for the CRM. We have maintained the same preferences as the ESB for these design choices:

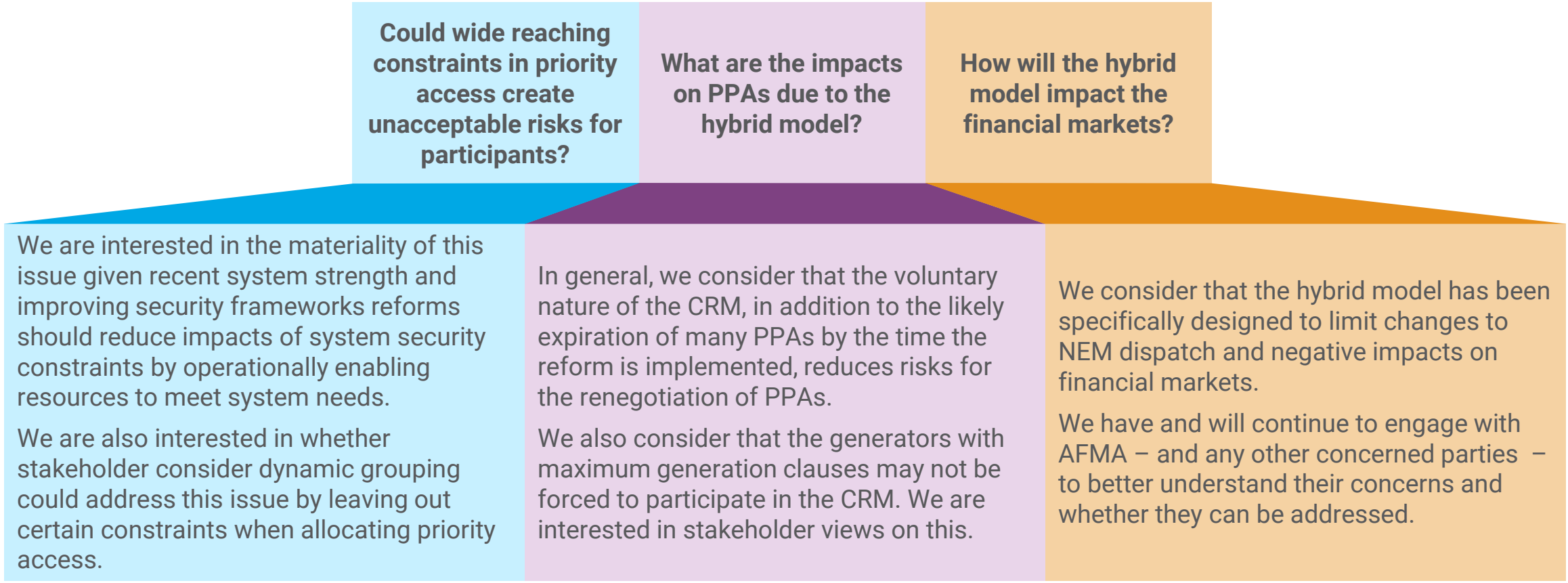
- **CRM participation:** scheduled and semi-scheduled participants only and corresponding registered dispatch unit identifier (DUIDs).
- **Rounding coefficients:** no rounding.
- **Bidding regulations:** no new bidding regulations, with the AER to monitor behaviour post-implementation.
- **Settlement on differences between physical dispatch targets and actual output:** settled at the RRP.
- **Settlement residue allocation:** same as today for inter-regional settlement residues, CRM residues to be determined and allocated to consumers either via TNSPs or retailers.
- **Treatment of MNSPs:** equivalent to a generator-load paid.
- **CRM bidding features:** quantity limits on CRMP exposure allowed, buy-sell spreads not allowed.
- **FCAS:** single set of FCAS bids used in both access and physical dispatch, only opt in for CRM FCAS.

We are also interested in whether the access and physical dispatches should be tethered. Tethering is when the dispatch targets are kept within 5-minute ramp constraints.

Our initial preference for tethering is informed by AEMO's concerns for when access and physical dispatch outcomes diverge. However, tethering could limit benefits from the CRM, but this is expected to decrease as thermal plant retire.



Key stakeholder issues



Initial feedback and discussion

Initial feedback and discussion

We are seeking to get initial feedback from you on the model options and topics for the May TWG.

We understand that you may not have had sufficient time to read and digest the consultation paper and design options, and that any feedback you provide today is preliminary.

Please join Mentimeter survey as directed.

We will go through each question and provide time for you to enter an answer.

We may ask you to elaborate on your answer and hope this will lead to discussions on other matters that interest TWG members.

Next steps

Stakeholder submissions to the consultation paper are due by 6 June 2024

	Q4 2023		Q1 2024			Q2 2024			Q3 2024			Q4 2024		
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ministerial	3 Nov ESCOG 24 Nov ECMC			XX Feb ECSOG	1 Mar ECMC				5 July ECSOG 19 July ECMC				22 Nov ESOG	6 Dec EMSG
AEMC Deliverables														
Hybrid model		**AEMC submits plan / budget to SO**		**SO approve plan / budget**		Publication of paper on draft design on CRM & priority access	**Stakeholder consultation**	Review submissions			Final Recommendations due to Ministers	Recommendations considered at December EMSG meeting		
CRM (Workstream 1)					Policy development – outstanding issues	Rules mapping	Consultation period	Review submissions Rules mapping	Refinement of policy positions	Refinement of policy positions				
Priority access (Workstream 2)					Policy development – policy issues	Test case results set out in publication	Consultation period Advice from modelling advisory firms	Review submissions	Refinement of policy positions	Refinement of policy positions				
Interlinkages between CRM and PA (Workstream 3)					Comms material developed	Consideration of links between CRM and PA model designs		-		Assessment of the model against objectives				
Stakeholders														
Jurisdictions				ECSOG discussion	Jurisdictional workshops		Jurisdictional workshops		Jurisdictional workshops					
Industry					Technical working group	Technical working group	Formal consultation period	Technical working group	Technical working group					

We are here

Stakeholder submissions due by **6 June 2024**. Bilateral meetings with the project team are available if requested.

Appendix A

Grouping by time-window – an example

Dispatch priority	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
BPF ($/MWh)	-1000	-836	-699	-585	-489	-409	-342	-286	-239	-200

2036 priority levels

- #1: Incumbents, committed generators, existing REZs
- #2: New entrants 2028
- #3: New entrants 2029
- #4: New entrants 2030
- #5: New entrants 2031
- #6: New entrants 2032
- #7: New entrants 2033
- #8: New entrants 2034
- #9: New entrants 2035
- #10: New entrants 2036

One year later

Dispatch priority	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
BPF ($/MWh)	-1000	-836	-699	-585	-489	-409	-342	-286	-239	-200

2037 priority levels

- #1: Incumbents, committed generators, existing REZs, new entrants 2028
- #2: New entrants 2029
- #3: New entrants 2030
- #4: New entrants 2031
- #5: New entrants 2032
- #6: New entrants 2033
- #7: New entrants 2034
- #8: New entrants 2035
- #9: New entrants 2036
- #10: New entrants 2037

All numbers are indicative and do not represent a finalised priority access design

Dynamic grouping – an example

In a simple example, consider three generators (G1, G2, G3) behind a radial 175 MW constraint, and a fourth unconstrained generator (G4). All generators have 100 MW capacity and were built in order (from oldest to newest) of G1, G2, G3, and G4.

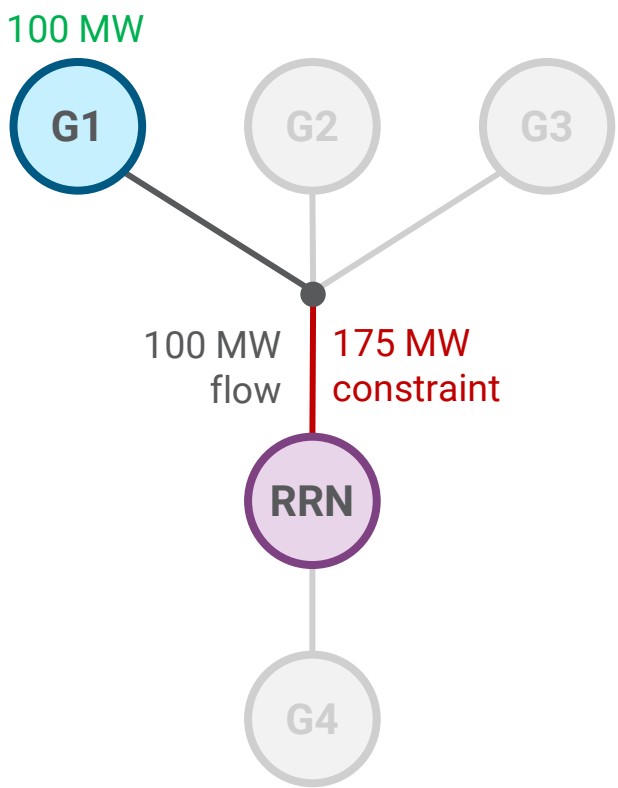
The dynamic grouping algorithm is run before dispatch to *allocate priority access* in a strictly chronological order.

Each consecutive dispatch '*locks*' the dispatch of generators from the previous run adds the next generator in the queue.

This way, the generators first in the queue get allocated priority access ahead of generators behind them, subject to transmission constraints.

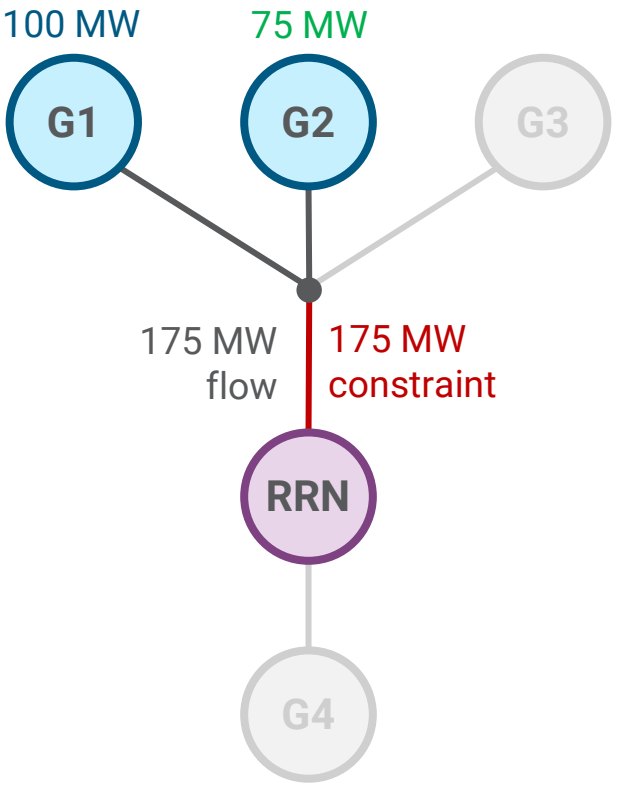
Dynamic grouping – run 1

In the first run, only G1 is allowed to be dispatched. It can be fully dispatched to 100 MW without violating the constraint.



Dynamic grouping – run 2

With G1's 100 MW dispatch 'locked', G2 can only be dispatched to 75 MW before the constraint binds.

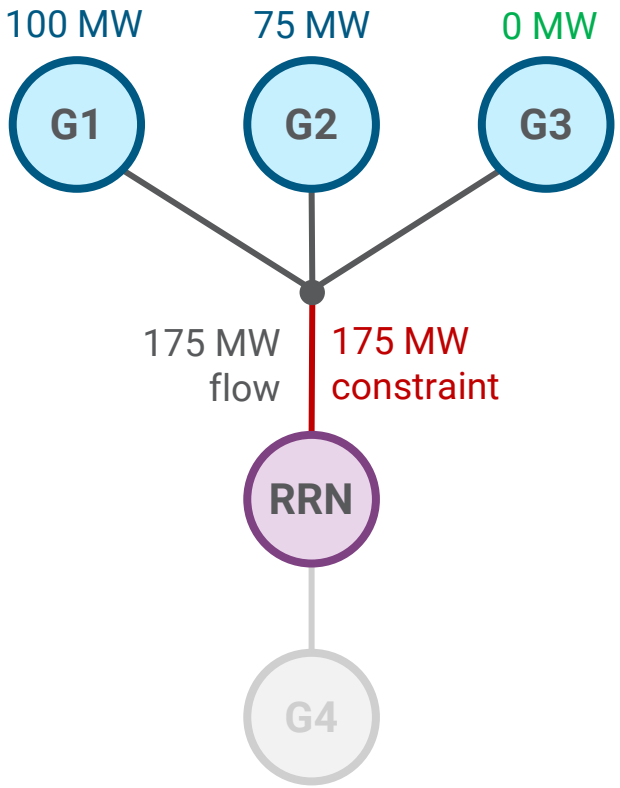


Example is continued on next slide

Dynamic grouping – an example

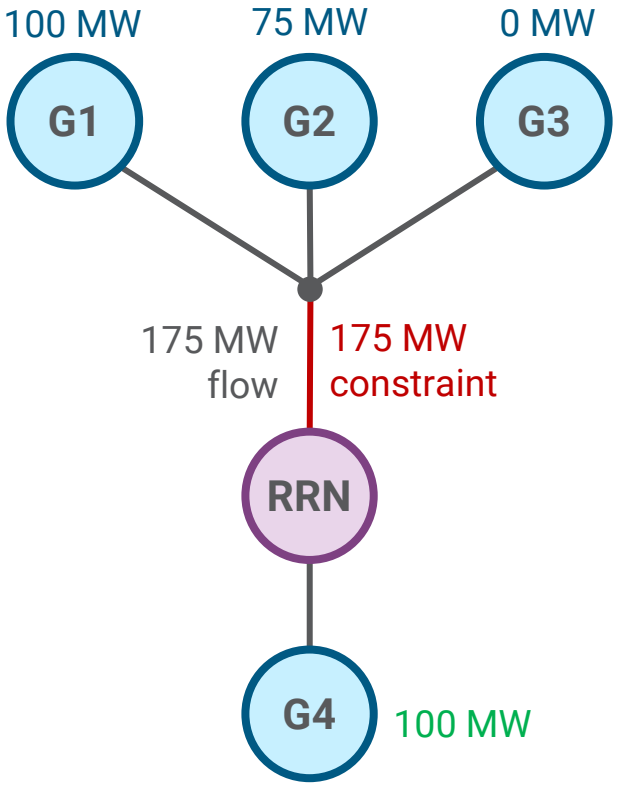
Dynamic grouping – run 3

In the third run, previous dispatches of G1 and G2 are 'locked' and the constraint is binding. Hence, G3 cannot be dispatched at all without violating the constraint.



Dynamic grouping – run 4

In the fourth run, G4 can be fully dispatched since it does not contribute to the constraint.



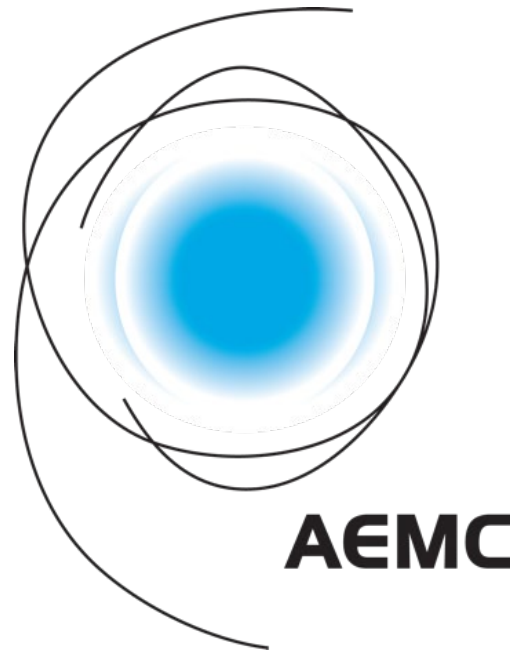
The final 'dispatch' from this dynamic grouping algorithm corresponds to the *allocation* of priority access for the actual dispatch.

Prioritised capacity could be offered at the lowest bid price floor (e.g. -$1000/MWh), while deprioritised capacity could only be offered at some higher bid price floor (e.g. -$200/MWh).

The table below shows the prioritised and deprioritised capacity from the dynamic grouping algorithm.

	G1	G2	G3	G4
Prioritised MW	100	75	0	100
Deprioritised MW	0	25	100	0

Example is continued from previous slide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