Department of Energy, Mines, Industry Regulation and Safety
Energy Policy WA
GOVERNMENT OF WESTERN AUSTRALIA

Meeting Agenda

Meeting Title:	Evolution of Pilbara Network Rules Working Group
Workstream	Workstream 1 (PNR Workstream)
Date:	27 June 2024
Time:	9:30am – 11:30am
Location:	Online, via TEAMS

Item	Item	Responsibility	Type	Duration
1	Welcome and Agenda • Conflicts of interest • Competition Law	Chair	Noting	4 min
2	Meeting Apologies and Attendance	Chair	Noting	2 min
3	Action items	Chair	Noting	4 min
4	Scenarios	RBP	Discussion	15 min
5	Capital costs	RBP	Discussion	15 min
6	Operational costs	RBP	Discussion	15 min
7	Overall costs	RBP	Discussion	25 min
8	Governance	EPWA	Discussion	30 min
9	Next steps	Chair	Noting	10 min
	Next meeting: 29 July (PNR workstream)			

Competition and Consumer Law Obligations

Members of the PAC's Evolution of the Pilbara Networks Rules Working Group (**Members**) note their obligations under the *Competition and Consumer Act 2010* (**CCA**).

If a Member has a concern regarding the competition law implications of any issue being discussed at any meeting, please bring the matter to the immediate attention of the Chairperson.

Part IV of the CCA (titled "Restrictive Trade Practices") contains several prohibitions (rules) targeting anti-competitive conduct. These include:

(a) **cartel conduct**: cartel conduct is an arrangement or understanding between competitors to fix prices; restrict the supply or acquisition of goods or services by parties to the arrangement; allocate customers or territories; and or rig bids.

(b) **concerted practices**: a concerted practice can be conceived of as involving cooperation between competitors which has the purpose, effect or likely effect of substantially lessening competition, in particular, sharing Competitively Sensitive Information with competitors such as future pricing intentions and this end:

- a concerted practice, according to the ACCC, involves a lower threshold between parties than a contract arrangement or understanding; and accordingly; and
- a forum like the EPNRWG is capable being a place where such cooperation could occur.

(c) **anti-competitive contracts, arrangements understandings**: any contract, arrangement or understanding which has the purpose, effect or likely effect of substantially lessening competition.

(d) **anti-competitive conduct (market power)**: any conduct by a company with market power which has the purpose, effect or likely effect of substantially lessening competition.

(e) **collective boycotts**: where a group of competitors agree not to acquire goods or services from, or not to supply goods or services to, a business with whom the group is negotiating, unless the business accepts the terms and conditions offered by the group.

A contravention of the CCA could result in a significant fine (up to $500,000 for individuals and more than $10 million for companies). Cartel conduct may also result in criminal sanctions, including gaol terms for individuals.

Sensitive Information means and includes:

(a) commercially sensitive information belonging to a Member's organisation or business (in this document such bodies are referred to as an Industry Stakeholder); and

(b) information which, if disclosed, would breach an Industry Stakeholder's obligations of confidence to third parties, be against laws or regulations (including competition laws), would waive legal professional privilege, or cause unreasonable prejudice to the Coordinator of Energy or the State of Western Australia).

Guiding Principle – what not to discuss

In any circumstance in which Industry Stakeholders are or are likely to be in competition with one another a Member must not discuss or exchange with any of the other Members information that is not otherwise in the public domain about commercially sensitive matters, including without limitation the following:

(a) the rates or prices (including any discounts or rebates) for the goods produced or the services produced by the Industry Stakeholders that are paid by or offered to third parties;

(b) the confidential details regarding a customer or supplier of an Industry Stakeholder;

(c) any strategies employed by an Industry Stakeholder to further any business that is or is likely to be in competition with a business of another Industry Stakeholder, (including, without limitation, any strategy related to an Industry Stakeholder's approach to bilateral contracting or bidding in the energy or ancillary/essential system services markets);

(d) the prices paid or offered to be paid (including any aspects of a transaction) by an Industry Stakeholder to acquire goods or services from third parties; and

(e) the confidential particulars of a third party supplier of goods or services to an Industry Stakeholder, including any circumstances in which an Industry Stakeholder has refused to or would refuse to acquire goods or services from a third party supplier or class of third party supplier.

Compliance Procedures for Meetings

If any of the matters listed above is raised for discussion, or information is sought to be exchanged in relation to the matter, the relevant Member must object to the matter being discussed. If, despite the objection, discussion of the relevant matter continues, then the relevant Member should advise the Chairperson and cease participation in the meeting/discussion and the relevant events must be recorded in the minutes for the meeting, including the time at which the relevant Member ceased to participate.

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Agenda Item 3: Action Items

Evolution of the Pilbara Networks Rules Working Group (EPNRWG) Workstream 1 – Meeting - 2024_06_27

Shaded	Shaded action items are actions that have been completed since the last EPNRWG (WS1) meeting. Updates from last EPNRWG (WS1) meeting provided for information in RED.
Unshaded	Unshaded action items are still being progressed.
Missing	Action items missing in sequence have been completed from previous meetings and subsequently removed from log.

Item	Action	Responsibility	Meeting Arising	Status
1/2024	Circulate email by COB 28 March 2024 seeking input from working group members on HTR Issues and Gaps.	EPWA	2024_03_28	**Completed**
2/2024	Provide a list of HTR Issues and Gaps to EPWA by COB 4 April 2024.	Working Group Members	2024_03_28	**Completed**
3/2024	Discuss the availability of data and/or insights relevant to the load duration curve with the ISO.	RBP	2024_05_23	**Completed** EPWA consulted the ISO on 21 June 2024

Government of **Western Australia**
Energy Policy WA

Evolution of the Pilbara Network Rules Working Group

Meeting 2024_06_27

27 June 2024

Working together for a **brighter** energy future.

Meeting Protocols

- Please place your microphone on mute, unless you are asking a question or making a comment
- Please keep questions relevant to the agenda item being discussed
- If there is not a break in discussion and you would like to say something, you can ‘raise your hand’ by typing ‘question’ or ‘comment’ in the meeting chat
- Questions and comments can also be emailed to EPWA - Energy Markets energymarkets@dmirs.wa.gov.au after the meeting
- The meeting will be recorded and minutes will be taken
- Please state your name and organisation when you ask a question
- If you are having connection/bandwidth issues, you may want to disable the incoming and/or outgoing video

4. Scenarios

Scenarios

We are modelling six scenarios (1A to 2C)

Scenarios are built on two dimensions while keeping the transmission build the same

1. Sectoral drivers:

- Reuse data from 2023 Pilbara Energy Transformation Assessment, including scenario demand assumptions and transmission build outputs
- Scenario 1x: CT - Current Trajectories
- Scenario 2x: CT+ - Current Trajectories + Loads (load from Strategic Industrial Areas - SIAs and CCS facilities)

2. Level of integration:

- Scenario nA: Current practices: self-capacity procurement, self-balancing
- Scenario nB: Partial integration: self-capacity procurement, central balancing service
- Scenario nC: Full integration: system-wide capacity procurement, system-wide merit-order dispatch

		Level of Integration		
		A	**B**	**C**
Sectorial drivers	**1**	1A	1B	1C
	2	2A	2B	2C

Today we will discuss results from scenarios 1A/B/C

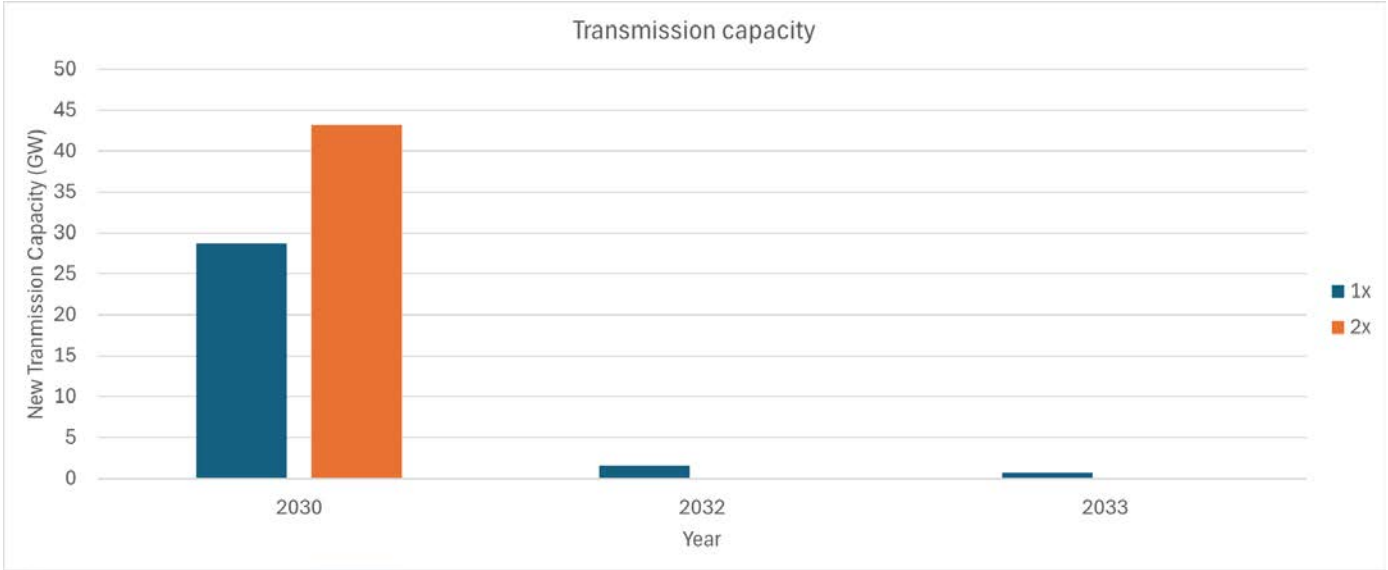
Differences between the scenarios

- None of the scenarios are achievable without new transmission build. Transmission build is assumed in the sectoral driver dimension, aligning with PETA outputs
  - Scenarios A, B, and C all have the same transmission assumptions, allowing us to focus on differences in generation build and operation. Capacity is built to avoid unserved energy within and across portfolios
- WEMSIM optimises dispatch across the entire power system based on cost minimisation with specified constraints
  - Status quo PNR - In scenarios 1A and 2A, each participant's load must be met from its own generation portfolio (whether owned or contracted). Sufficient capacity is built to avoid unserved energy
  - Partial integration - In scenarios 1B and 2B, participants still have their own generation portfolios, but the modelling assumes storage facilities can be used to meet any participant's load. This means less overall capacity is required, and more efficient overall dispatch
  - Full integration - In scenarios 1C and 2C build sufficient capacity to meet load and balancing services on a system wide basis and allow optimised dispatch across the whole system
- To manage solve time, these results cover every fifth year: 2025, 30, 35, 40, 45, and 50

5. Capital costs

Transmission Build

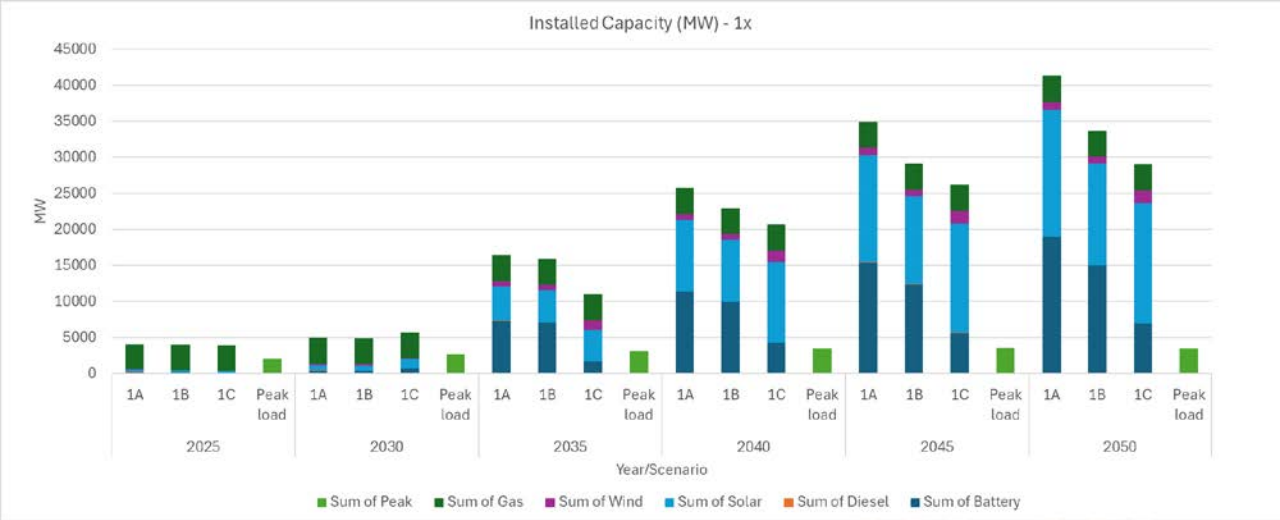
- We use the transmission build settings from the 2023 Pilbara Energy Transformation Assessment
  - Most transmission build coincides with the steep fall in the emission limit between 2030-2031 to accommodate new capacity
  - The 2x load scenario requires more transmission build to meet the higher industrial demand from SIAs and CCS
  - The transmission cost is 45% higher to accommodate the new builds for meeting the higher demand in 2x
- EPWA has commenced a refresh of the PETA modelling to further investigate transmission requirements and staging



Load scenario	Transmission cost ($ million)
1x	$8,625
2x	$12,477

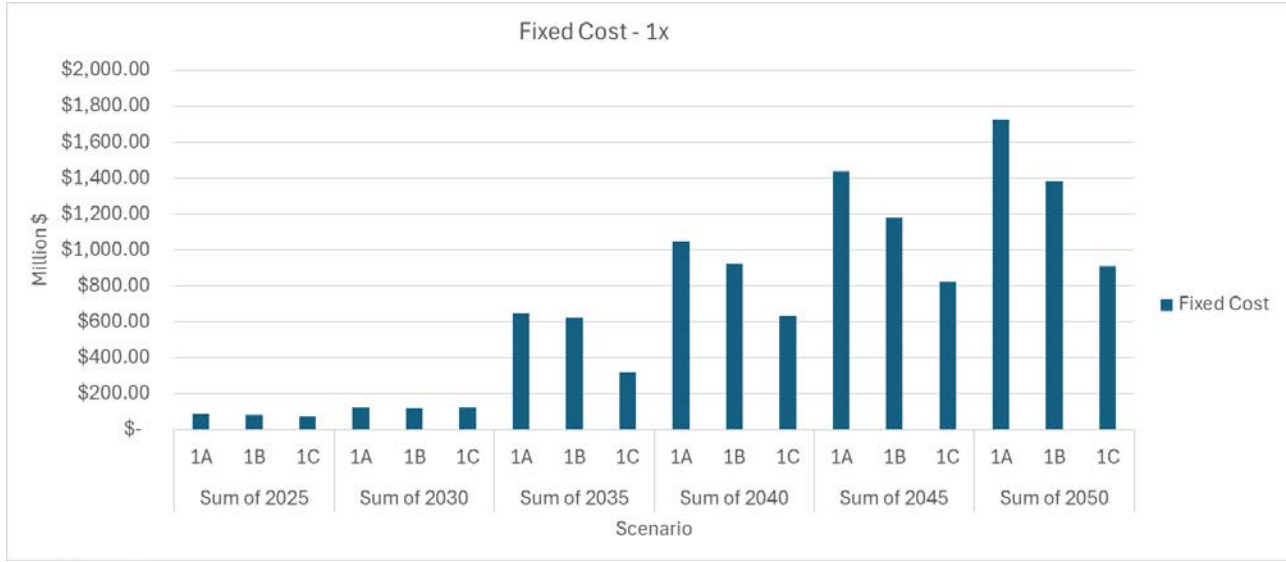
Generation Build

- In a high renewable future, significant overbuild is needed due to the intermittent nature of the facilities, and to meet the carbon emission targets
- Storage is integral in all scenarios to distribute intermittent capacity to other parts of the day and to provide firming capability to the system as gas facilities are restricted by emission targets
- The fully integrated scenario (1C) requires less capacity when compared to 1A and 1B as resources are shared among the participants in the network



Generation Build Cost

- The fixed cost is closely proportional to the installed capacity
- Build cost is higher for scenario 1A and 1B than 1C as capacity is reserved to meet demand within the portfolio and this requires significant overbuild and leads to inefficient use of resources
- In terms of generation build cost, there is a potential to reduce around 20% of the capacity cost by procuring capacity to meet reliability needs on a system-wide basis

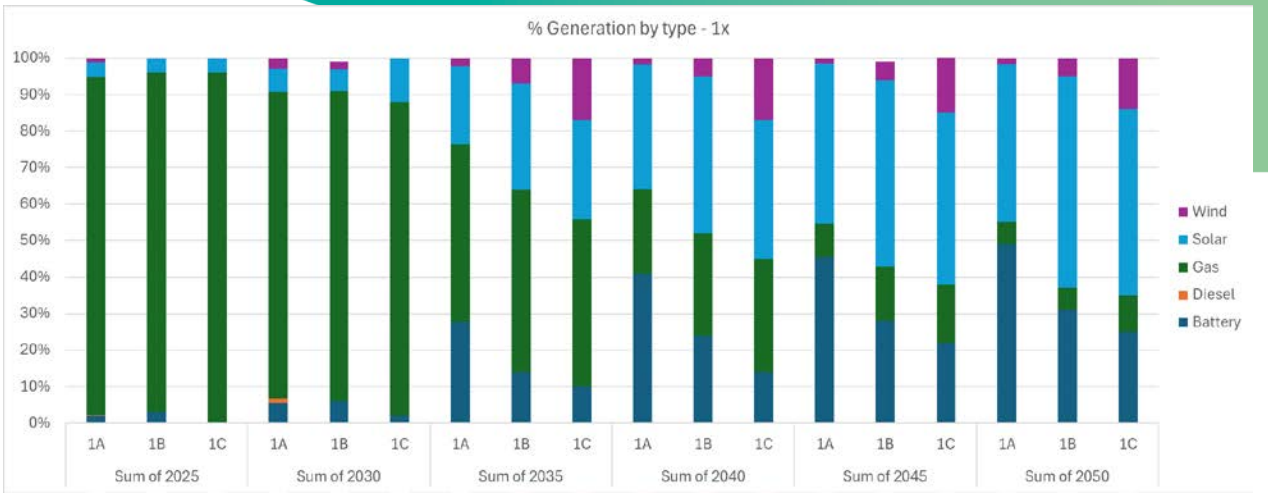


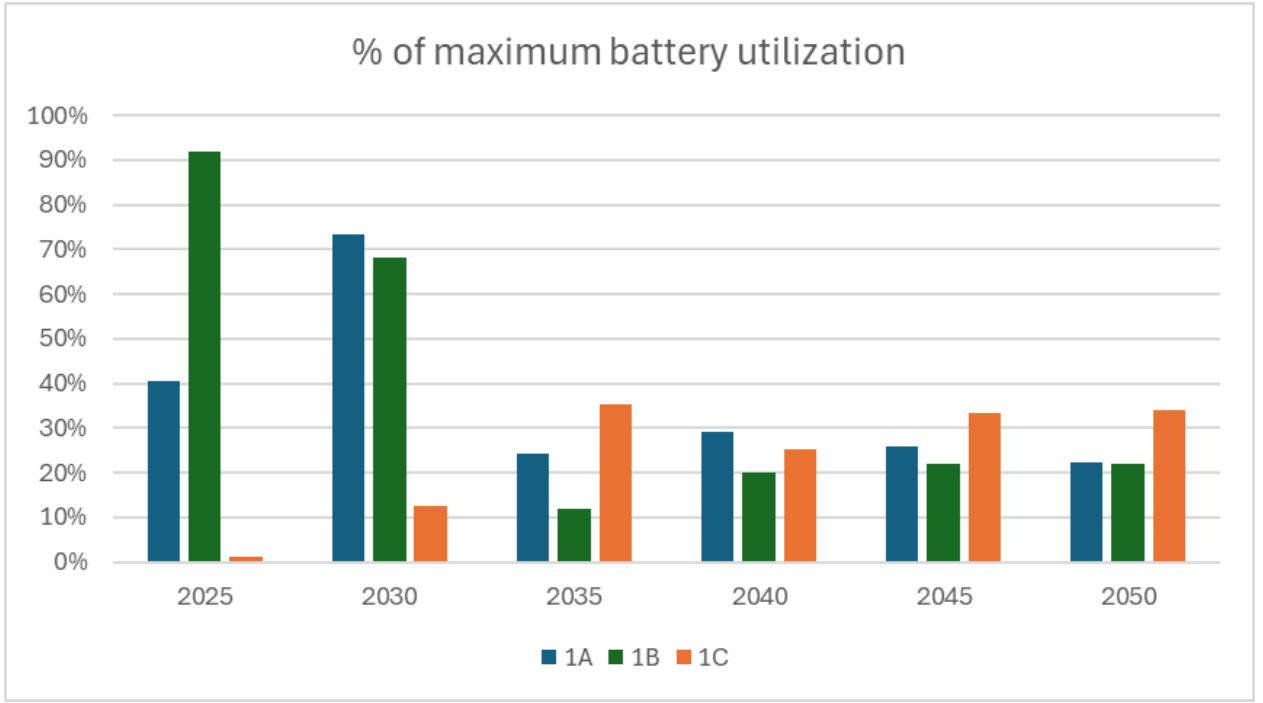
Scenario	Generation build cost (fixed + cost of new entry) (Million $)
1A	$ 66,175.59
1B	$ 57,662.25
1C	$ 48,103.63

6. Operational costs

Generation dispatch

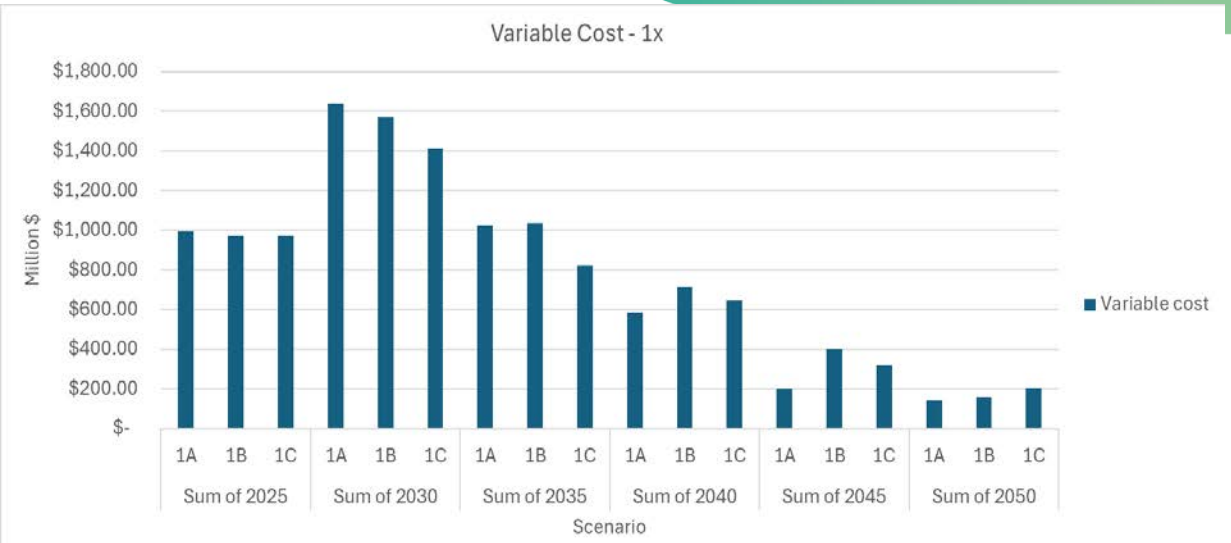
- Thermal generation drops steadily to meet the assumed emission targets
- Batteries remain integral to meeting load when the intermittent generation is low
- The battery utilisation depends on the capacity mix for the battery to charge effectively during off-peak periods and discharge during peak periods
- In early years, scenario A makes heavy use of a small amount of storage. In later years, storage is needed more sparingly (as renewable overbuild increases). Scenario C makes better use of a smaller quantity of storage to deliver a smaller overall quantity of energy

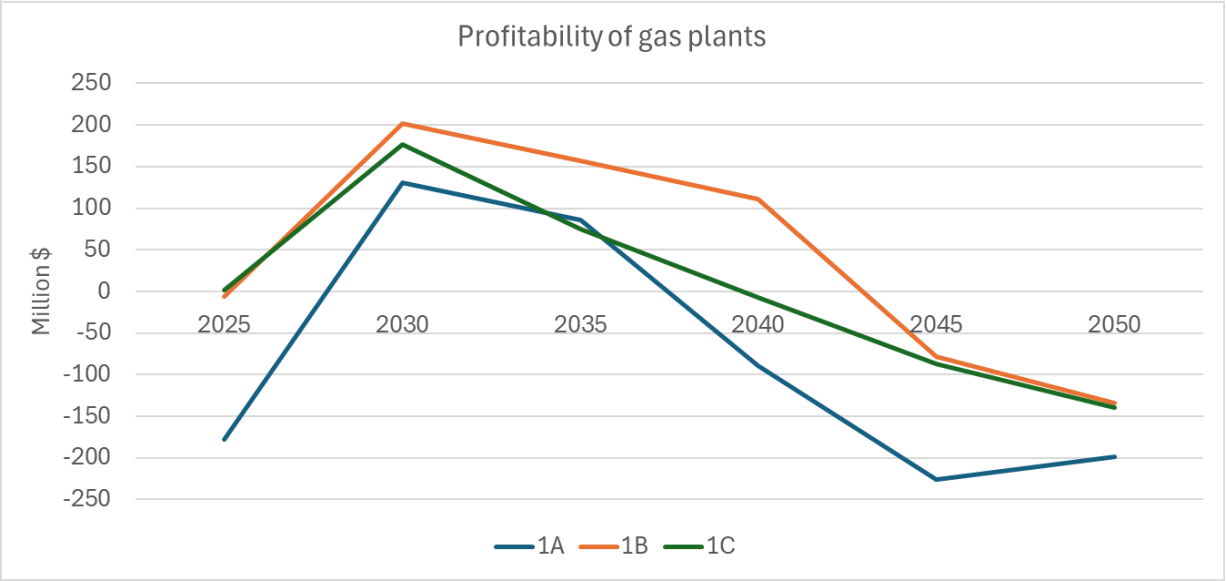




Generation Cost

- Variable cost tracks with gas usage. Storage and variable renewables run at $0 variable cost, so variable costs closely relate to gas generation
- In later years, scenarios 1B and 1C have slightly higher variable cost, matching the slightly higher gas usage. Less overbuild translates to greater profitability
- Gas profitability drops from 2030 as the transmission lines are built leading to delivery of wind and solar facilities from the Renewable Generation Hubs
- By 2045, gas facilities become unprofitable in all three scenarios

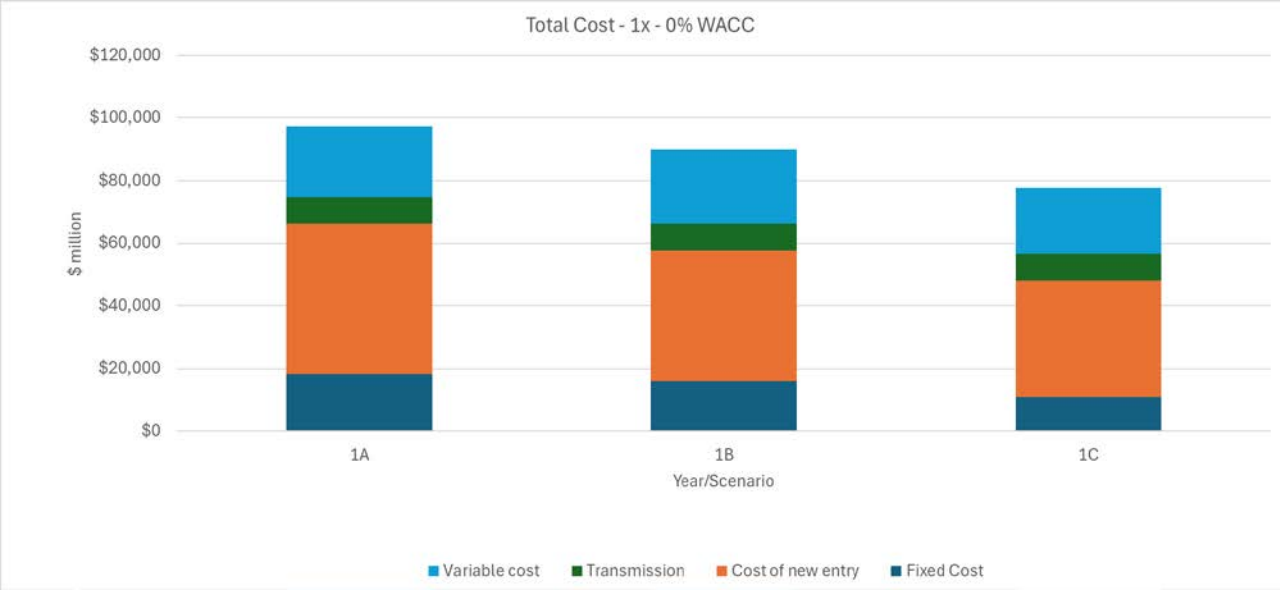




7. Overall costs

Total cost

- Scenario 1C has overall cost around 20% less than scenario 1A including capacity build to 2050, and operational costs for the six years modelled
- System-wide capacity procurement provides substantial savings when compared to current practices of self procurement
- Scenario 1B indicates that a large centralised balancing service would bring substantial savings when compared to self-procurement
- In later years, generation costs are slightly higher with system-wide capacity procurement, but this is outweighed by the reduced capacity investment cost



Modelling outcomes

Modelling indicates that:

- High renewable penetrations are achievable once transmission investment unlocks access to renewable energy zones
- With high penetration of variable renewables:
    - The current approach to assessing system reliability will no longer be effective
    - Generation volatility means ancillary services must be revisited
    - Electricity users in the Pilbara will see significant cost efficiencies from more integrated operations
- Changes can be delivered incrementally rather than a completely new paradigm

The Pilbara Network Rules need to start describing requirements and obligations for a power system with more participants and more contracting between parties, to give confidence that all parties will meet their obligations to maintain power system security and reliability

Implications for the PNR

The largest benefits come from:

- Having more centralised services – starting with balancing, and potentially moving to full merit-order dispatch later
- Applying reliability standards on a whole-of-system basis, where individual network owners still have the option to build or contract dedicated capacity

To unlock these benefits, the PNR need to:

1. Provide a mechanism for greater operational integration, timed to commence alongside the transmission investment that enables renewable investment. This includes:
    - Monitoring and intervention power for the ISO
    - Amended load following rules
    - Adjustments to ESS definitions to manage reduced load-following requirements and increased renewable energy penetration
2. Include a formal reliability definition and target (whether for individual networks or for the system as a whole)
3. Provide a transparent mechanism for collaborative long-term planning

8. Governance review

Background

The Pilbara Networks Rules (PNR) establishes a significant role for the ISO.

Following stakeholder feedback raised during the Pilbara ISOCo's authorisation application to the ACCC, EPWA advised the working group on 23 May 2024 that it would prioritise a review of the governance framework of the PNR, including the Pilbara ISO governance.

The following slides outline EPWA's proposed approach to the review of the governance arrangements.

Summary Overview of Pilbara ISO Governance

Pilbara ISO Limited (Pilbara ISOCo) has been appointed to the ISO role. As well as the Pilbara regulatory regime (including the PNR), a number of instruments are relevant including the Pilbara ISOCo's Constitution, internal policies and controls.

Features of the current governance arrangement include:

- Participant-led company including board composition
- Key system operations functions (delegated to participants)
- Collaborative and informal approach to PNR functions (i.e. fortnightly system coordination meetings, including outage scheduling);
- Administered ISO funding/resourcing
- Reliance on non-PNR instruments (i.e. Internal company controls)
- Lack of effective enforcement mechanism

Scoping Governance

Defining Governance

Governance is a vague and widely-interpreted concept. For the purposes of this review, it has been defined to include:

- Corporate governance
- Roles and responsibilities
- Change management
- Compliance monitoring and risk mitigation
- Compliance enforcement
- Cost recovery mechanisms

Criteria for ‘Best Practice’ Governance

To guide and inform the review, a criteria will be developed to identify issues and inform the assessment of options:

- Cost-efficiency and effectiveness
- Quality and transparency of decision-making
- Independence (impartiality) and objectivity
- Clarity of roles and responsibilities
- Flexibility for change management
- Compliance by “design” (e.g. with competition law)

Draft, Indicative ‘Matrix Assessment’

	Cost-efficiency and effectiveness	Quality and transparency of decision-making	Independence (impartiality) and objectivity	Clear roles/ responsibilities	Flexibility for change management	Compliance by “design”
Participant-led company including board composition	X		X		X	X
Key system operations functions	X					X
Collaborative and informal approach to PNR functions	X					
Administered ISO funding/resourcing	X	X			X	X
Reliance on non-PNR instruments	X				X	
Lack of effective enforcement mechanism	X				X	
Note. X is used to denote ‘satisfaction’ of ‘best practice’ criterion.						

*In addition to the matrix assessment, evaluation of the status quo and potential options will need to ensure governance arrangements are aligned to the achievement of the Pilbara Electricity Objective.

Governance review - next steps

EPWA will use this matrix to identify and develop issue descriptions and assess initial options list to address the issues.

- Iterations of this list will be presented to the EPNRWG during the upcoming meetings in July and August.

Note:

- Pilbara ISOCo ACCC authorisation application outcome (pending)
- The ISO has commenced a review of Subchapters 7.3 and 7.4 in the PNR

9. Next steps

Next steps

- Collate identified issues
- Detailed PNR review, including governance aspects
- Upcoming meetings
    - **29 July** – PNR workstream meeting: initial list of issues, initial prioritisation
    - **15 August –** PNR workstream meeting: options for prioritised issues
    - **29 August –** PAC meeting
    - **26 September –** PNR workstream meeting: options for prioritised issues

Questions or feedback can be emailed to energymarkets@dmirs.wa.gov.au

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