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Talks Live

Regulating the energy transition
Can NEM regulation support the net-zero transition?
19 March 2024

Talks Live

The **Marsden Jacob Talks Live** webinar series brings people together to discuss pressing issues across environment, energy, water, circular economy and recycling, agriculture and earth resources and other sectors in Australia and internationally.

These free webinars are open to everyone. We aim to share best practices and bring you the latest research and thinking. Our focus in these events is on encouraging open, positive and collaborative discussion.

We encourage you to share your questions, opinions, experience and interests. We also welcome your thoughts on future topics for our webinar series.

Each live event includes a presentation hosted by Marsden Jacob experts, followed by an open Q&A session.

Marsden Jacob Associates acknowledge the Traditional Custodians of the lands and waters across Australia where we conduct our business. We also pay our respects to their Ancestors and Elders past and present.

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Talks Live – Regulating the energy transition



Who are we?



Cameron O'Reilly

Associate Director
MMPP (Monash.), BEc (Hons) (Syd.), Fulbright

- Energy and public policy specialist with a wealth of leadership experience within industry associations, government and private sector organisations, including senior energy policy roles in the NSW Government.
- Led the 2023 'Electricity Supply and Reliability Check Up' on energy transition progress for the NSW Government.
- Spent almost a decade as Chief Executive of the Energy Retailers Association of Australia (ERAA), the peak industry body for retailers of electricity and gas.



Simon Orme

Associate Director
MA (Hons)

- Experience designing regulatory and energy market frameworks to support consumer participation, including the new institutional arrangements for the NSW Electricity Infrastructure Roadmap to support accelerated regulated and non-regulated transmission development and REZs.
- Led early work on the Consumer Data Right – Energy, and governance of technical standards for CERs.
- Worked extensively on regulated pricing and regulatory reform in retail and network electricity and gas markets across Australia and internationally.

Why this topic? And why now?

The energy transition and meeting 2030 targets for emissions reduction and new generation and storage is looking increasingly challenging.

Barriers and challenges include:

- social license
- supply chains
- workforce
- wholesale market conditions
- market interventions.

To combat challenges and break down barriers, regulation and reform need to be aligned to achieving the energy transition.

Through this webinar, we'll offer our perspective on:

- How well the NEM and its institutions are performing.
- Why State and Federal Governments are still intervening.
- Whether this a *symptom* or *cause* of present challenges.

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National Electricity Market (NEM) – reform and expansion

Pre-December 1998

- Hilmer Competition reforms and associated competition payments (revenue).
- Break up of state utility monopolies.
- Separation of networks from generation.
- Creation of new distribution and retail entities.
- Introduction of spot markets and intra-state trading.
- Privatisation in Victoria.
- National electricity and gas codes.
- Establishment of National Electricity Market Management Co (NEMMCO).
- State regulation of retail and distribution.



1998-2010 (NEM1.0)

- Spot market begins December 1998.
- QLD and TAS enter the NEM through QNI 2001 and Basslink 2005.
- Oversupplied market leads to low wholesale prices.
- Full retail competition introduced.
- Drought leads to high prices 2006-2007.
- Investment in gas peaking plant.
- Consolidation of retail/generation through privatisation.
- Parer Review establishes current governance model- AER, AEMC.
- Gas and electricity convergence – AEMO established 2009.

Industry and institutions of the NEM were initially developed over 20 years ago as part of a productivity and competition agenda. Some success was achieved, and the states largely stepped back from the market and sold state-owned enterprises.

NEM evolution – sustainability challenges/states return

2010-2018 (NEM1.1)

- AEMO, AER & AEMC established.
- Retail price regulation removed.
- High customer switching and new entrants.
- Network cost increases 2010-15 in QLD/NSW drive large total retail bill increases.
- LRET significantly increased.
- Carbon price introduced, then repealed.
- States look to establish RETs – VRET and QRET.
- Very high state feed in tariffs drive uptake of DER.
- Hazelwood exit drives wholesale prices.
- ACCC inquiry into retail electricity pricing.

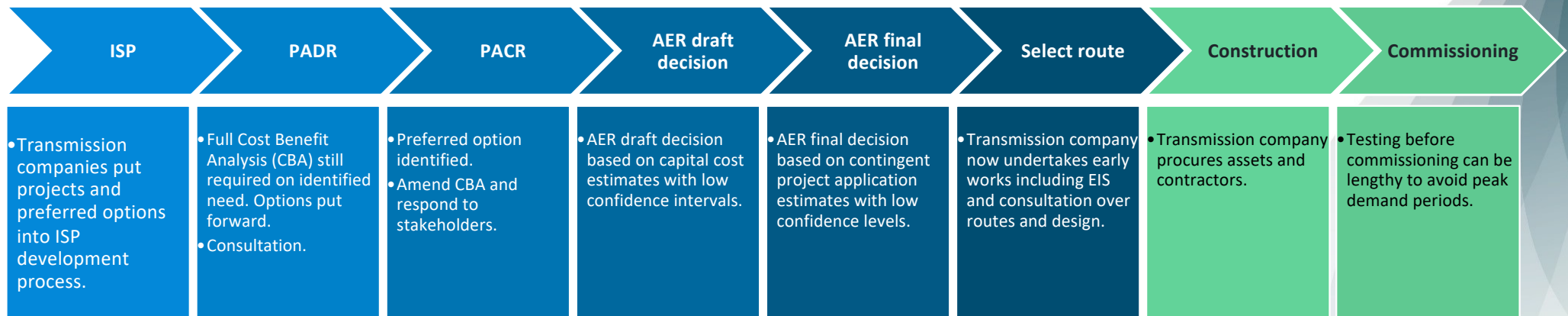


2018 and beyond to 2024 (NEM1.2)

- ACCC report released – introduction of Default Market offer and Victorian Default Offer (VDO).
- National Energy Guarantee (NEG) doesn't progress.
- Energy Security Board (ESB) established.
- NEM post-2025 design.
- First Integrated System Plan 2018.
- Transmission becomes priority.
- NSW Transmission Infrastructure Strategy.
- NSW Roadmap.
- Queensland Energy and Jobs Plan.
- Capacity investment scheme (CIS).

**From 2010, increasing priority was given to the climate change imperative.
Ongoing carbon uncertainty led to challenges for NEM, leading to the return of the states.**

Example 1: Regulated transmission – Rit-t at time of ISP release

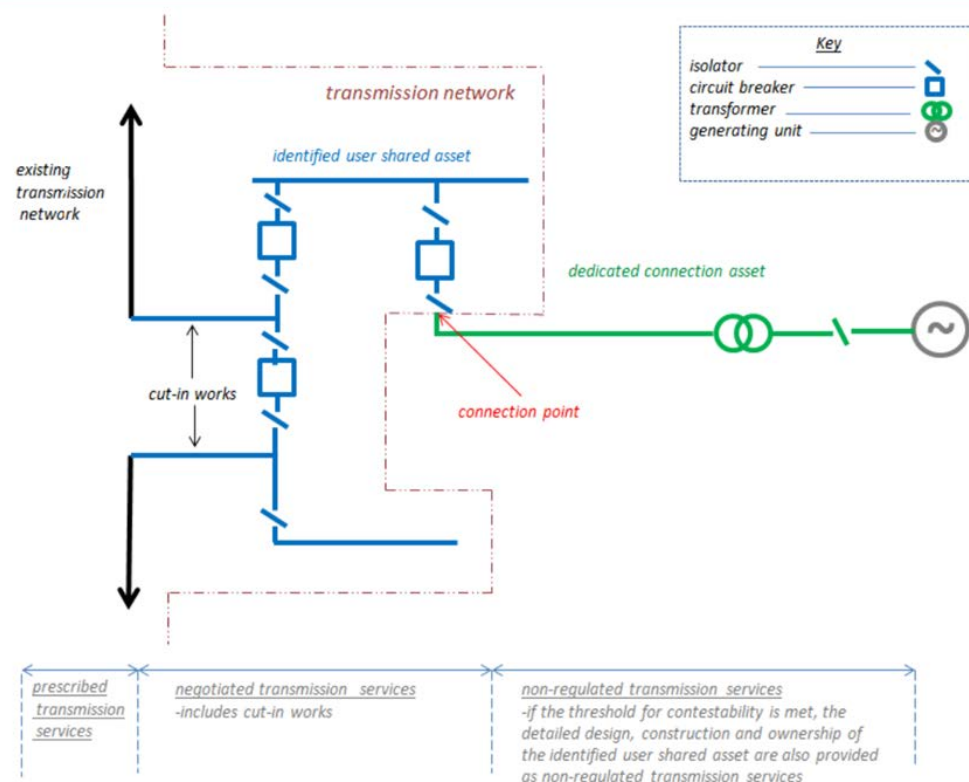


Source: Marsden Jacob Associates

- National regulated process rarely less than 18 months – four years is typical.
- Opponents to new transmission have stronger incentives than (dispersed) winners.
- The wholesale market impact of delays in transmission approvals and energisation are substantial – ISP timelines missed.
- NSW Government adopts process for government underwriting of early transmission works/procurement.
- 2020 legislation establishes state approval and funding mechanism for transmission.

Example 2: Scale efficient network extensions – Renewable Energy Zones (REZs)

Figure 2.1: Transmission system assets

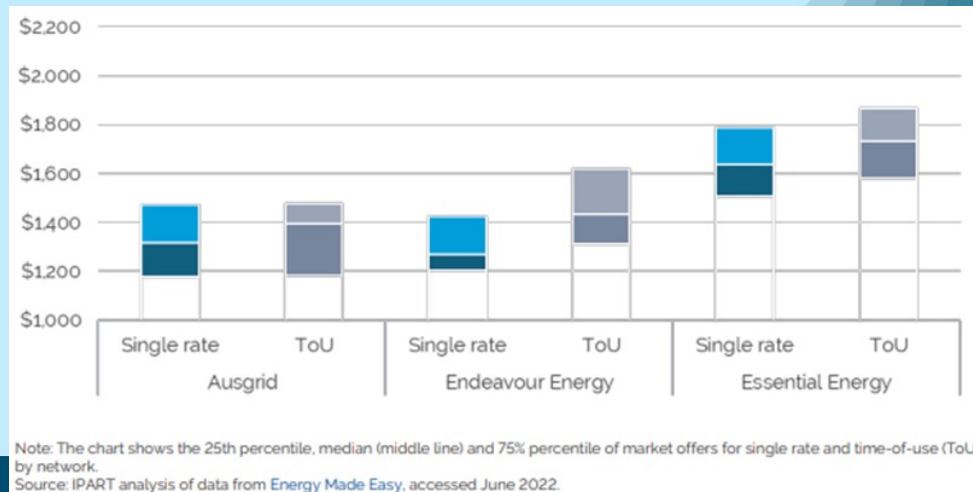


Source: AEMC, Transmission connection and planning arrangements rule, Final determination, 23 May 2018.

- 2018 NSW transmission infrastructure strategy completed, en route to roadmap.
- In 2018, AEMC completed lengthy suite of reviews on transmission connection and planning.
- Scale-efficient transmission (blue assets in image to left) required competing generators to fund 'negotiated', transmission, and access regulated transmission.
- The following year, work began on creating NSW EnergyCo to develop Renewable Energy Zone (REZ) transmission.
- For Central West Orana (~4.5GW+ generation), the proposed \$3.2 billion REZ assets (blue) include: ~90km 500kV, ~150km 330kV, plus switching hubs, substations and substantial easements.
- The transmission build for this REZ is being undertaken by a consortium. Firm access is available.

Example 3: Retail regulation inhibiting demand response and CERs

- Retail market regulation appears to be *suppressing* incentives for demand response and efficient consumer energy resources (CERs).
- IPART's 2022 retail electricity market monitoring report found *no significant customer benefit* from moving to time-varying tariffs.
- All market offer prices must be compared with deemed profiles, regardless of customer profile and supply cost.



Sections 7.1-7.2, Final Report, Monitoring NSW retail markets 2021-22, November 2022, IPART

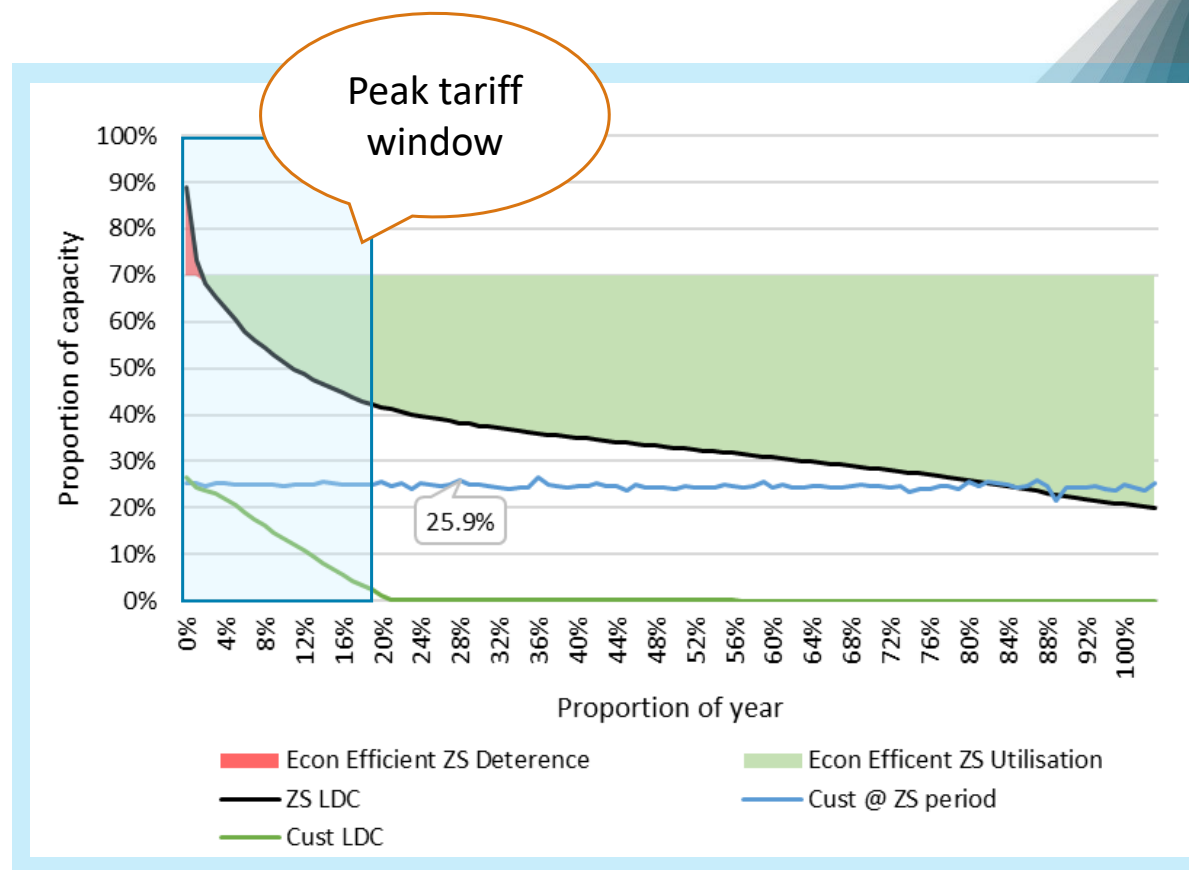
Retail market deemed profile	Unit c/kWh WEC price for 2023/24 (ex GST)	Annual total WEC ex GST	Annual volume	Annual bill
Deemed profile A	\$0.19	\$931.01	4,913	\$2,228
Deemed profile B	\$0.16	\$808.90	4,913	\$2,106
WEC difference	\$0.02	\$122.11		4.8%
Profile A as % profile B	115.1%	115.1%		104.8%

Source: Marsden Jacob Associates analysis of AER Final Determination – Default market offer prices 2023-24 - cost assessment model, WEC cost sheet

- AER's DMO decision implies differences in average deemed demand profiles of around 15% of wholesale costs and a significant impact on annual bills.

Example 4: Network pricing reform

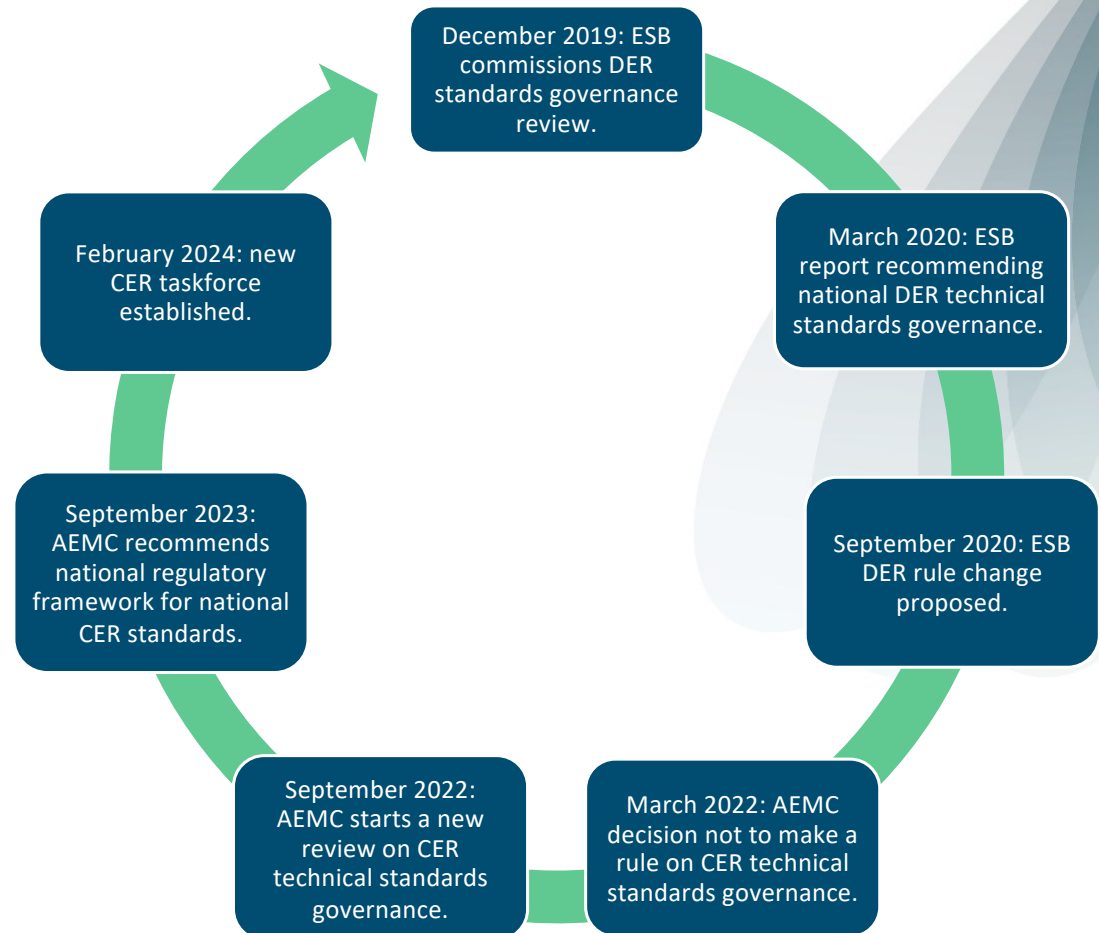
- Pricing reforms developed from 2006 to 2016 responded to increased annual maximum demand driving augmentation and rising network and retail prices.
- Growth expenditure (import plus export even over 10 years) now a small fraction of total revenue requirement – less than 2%.
- Static peak and similar tariffs economically inefficient – suppress usage of infra-marginal network capacity with near zero marginal network costs (green zone).
- Revenue from ‘cost-reflective’ tariff designs exceed relevant costs by an order of magnitude – a charge for non-existent costs.



Source: Marsden Jacob Associates

Example 5: Circumlocution on governance of technical DER/CER standards

- The ongoing absence of national technical standards holds up the efficient adoption and use of CERs.
- New CER technical governance arrangements could have been in place by the end of 2021 and run for ~26 months.



Option for improving NEM institutional performance

Improve performance monitoring:

- NEM reforms came from heads of government and were driven by broader reform objectives.
- NEM largely reviews itself and Statement of Expectations (SOE) come from energy ministers.
- Governance and performance has not been externally reviewed for some time.
- Many of the challenges of transition go beyond the powers of the NEM – social license, planning etc.
- States are back and perhaps needed to be – NEM/states co-exist rather than compete.
- Have NEM bodies taken on too much to protect turf?



RED = Unacceptable performance standard

YELLOW = Watch closely. Problem?

GREEN = Target performance standard

Some parting insights

1. The NEM was established through a micro-economic reform process. Its original goals were largely realised.
2. The NEM was designed for incremental change – not transition.
3. The delivery of the transition goes beyond the NEM and energy sector – involves multiple agencies of government.
4. State powers are critical to the transition – planning in particular. Working together with NEM institutions is necessary if complex.
5. Wholesale reform of institutions would be disruptive – not worth it.
6. Governance and performance of existing bodies could be improved.
7. System would benefit from external assessment.



The team

We have a highly experienced energy team located across Australia.

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