



George Passmore
Director – Business Performance
Queensland Competition Authority
Level 27, 145 Ann Street
BRISBANE QLD 4000

Response to Stakeholder Submission - Electric Energy Charge Draft Amending Access Undertaking

12 August 2022

Dear George

Thank you for the opportunity to respond to the Stakeholder submission on Aurizon Network's Electric Energy Charge Draft Amending Access Undertaking (**EC DAAU**).

Unless otherwise defined, capitalised terms in this submission have the meaning given to those terms in Aurizon Network's 2017 Access Undertaking (**UT5**).

1. Background

On 8 June 2022, Aurizon Network submitted the EC DAAU to vary the FY23 EC tariffs for the Blackwater and Goonyella Systems. The purpose of the EC DAAU was to update the EC tariffs to reflect the expected cost of procuring electricity based on the competitively determined prices for that electricity from the National Electricity Market (**NEM**). The EC DAAU seeks to amend the FY23 Annual Review of Reference Tariffs¹ approved amount of \$1.11 per '000 egtk to avoid a material under-recovery in FY23 to be recovered through the EC tariffs in FY24.

The Queensland Competition Authority (**QCA**) requested submissions on the EC DAAU by 21 July 2022 and received one submission from the Queensland Resources Council (**QRC**). The QCA has requested additional information from Aurizon Network as part of its assessment of the EC DAAU under section 138(2) of the *Queensland Competition Authority Act, 1997 (QLD)* (**QCA Act**). This submission also provides additional explanatory materials to assist the QCA in that assessment.

This submission has been prepared to further assist the QCA in assessing the EC DAAU by addressing the following matters:

- Summarising Aurizon Network's role in the electricity supply chain and its incentives for procuring electricity for the benefit of its customers to achieve the best long-term price outcomes;

¹ Approved by the QCA on 26 May 2022 with the updated EC tariff being published on www.aurizon.com.au on 7 June 2022

- Clarifying the electricity on-selling cost recovery arrangements in UT5 and why Aurizon Network does not assume, and is not compensated for bearing, cost risk in these activities;
- The process by which Aurizon Network has previously negotiated, contracted and procured electricity under a progressive purchasing strategy through an Electricity Sale Agreement (**ESA**) and the benefits to customers from those arrangements;
- The process followed for the procurement of a new ESA and the contributing factors to the delay in its completion and the commencement of purchases through the replacement retailer;
- The material and significant developments in the supply side of the NEM and the implications of those developments on both prices and the initial purchasing strategy under the ESA;
- The matters relevant to the QCA in assessing the EC DAAU; and
- Aurizon Network's expectations for future price movements in the NEM and how that will influence purchasing decisions.

This submission contains substantial commercial in confidence material that Aurizon Network may only disclose to the QCA as a requirement to do so as a legal obligation. Aurizon Network has provided both public and confidential versions of this submission to the QCA.

2. Executive Summary

Consistent with the 2017 Electricity Charge DAAU which varied the EC tariff to reflect revised costs under the new ESA at that time, Aurizon Network is seeking the QCA's approval for the electricity charges it will incur under the ESA reached with CleanCo Queensland Limited (**CleanCo**).

As with the 2017 approach, Aurizon Network followed a competitive procurement process to select the supplier of electricity for use by the Aurizon Group and for customers in respect of their individual above-rail traction requirements.

Aurizon Network engaged and relied on external, expert advice (provided by Edge2020), in the procurement process, the selection of the successful tenderer and in negotiating and agreeing the terms and conditions of supply, including price terms.

The terms and conditions initially offered by CleanCo were not commercially acceptable to Aurizon Network or in the interests of customers as it would have resulted in potentially higher electricity prices over the duration of the ESA. Aurizon Network, with the assistance of external expert advice, negotiated more favourable terms before agreeing the final form of contract with CleanCo.

The QCA confirmed in its decision on the 2017 DAAU that procuring electricity under a progressive purchasing strategy through an ESA:

"....provides for the efficient use of Aurizon Network's infrastructure by enabling supply of power at market prices to users of electric traction on the Goonyella and Blackwater system"

In context of the current EC DAAU, Aurizon Network followed a contracting strategy that was both supported by independent expert advice and consistent with an approach previously approved by the QCA as efficient in 2017.

The price outcomes under the ESA are the consequence of extreme, unprecedented and unforeseen changes in market conditions in the NEM. As noted by the ACCC in an addendum to its May 2022 Electricity Market Inquiry report:

“...these price rises are significant and unprecedented. Retailers have been impacted by the sudden and extreme increase in spot market prices. As at 15 June 2022, one electricity retailer has exited the market. A number of other retailers are foreshadowing very large price increases and encouraging their customers to seek supply elsewhere.”

In the circumstances, Aurizon Network submits that the QCA should approve the electricity charges covered by the EC DAAU as efficient. Not approving the EC DAAU would result in an unreasonable and uncommercial outcome for Aurizon Network by not allowing for the recovery of efficiently incurred costs and distorting current and future EC tariffs.

3. Aurizon Network’s Role in the Electricity Supply Chain

The supply and sale of electricity by Aurizon Network to Access Holders is associated with a direct input cost to above rail operators based on their respective traction choice decisions when investing in locomotives.

The directly connected Central Queensland Coal Network (**CQCN**) overhead power system which supplies this electricity is a distribution system which is subject to:

- declaration under the QCA Act;
- exemptions under section 20Q of the *Electricity Act 1994 (Qld)*; and
- a deemed exemption from registration as a distribution network service provider (**DNSP**) under the National Electricity Rules.

Aurizon Network is not compelled to sell electricity to rail operators under the terms of its Access Undertaking. However, Clause 2.6(a) of UT5 requires that where Aurizon Network sells or supplies a Related Operator with electric energy in connection with Access, then Aurizon Network cannot refuse to sell or supply electric energy to another Access Seeker or Access Holder.

Aurizon Network currently chooses to supply electricity to a Related Operator and therefore procures electricity for all its access customers.

Aurizon Network sells electricity to rail operators which helps not only by lowering transaction costs, it also avoids the regulatory administration and compliance burden of the alternative arrangements of Aurizon Network registering as a DNSP and rail operators installing registered meters and procuring their own electricity.

The procurement of electricity is managed through an ESA obtained through competitive market processes with authorised electricity retailers. Aurizon Network is not an electricity retailer but an on-seller of electricity based on the competitive rates prevailing in the NEM. As such, all risk management activities are undertaken by the retailer under the terms of the ESA.

In procuring electricity for the benefit of users of electric traction services, Aurizon Network has strong incentives to ensure it does so as efficiently as possible. The on-selling of electricity is a fuel cost to above rail operators and Aurizon Network makes no assumptions regarding the extent to which those costs are passed on to end users associated with the use of electric traction or form part of the rail operators cost base. These short and long-term incentives to procure electricity at an efficient cost are associated with:

- vertical integration and the potential adverse financial impacts to its related operator associated with uncompetitive or over-priced use of electric traction;

- under the procurement process electricity is procured concurrently to meet the demand of both the CQCN and the Aurizon Group's broader Queensland business requirements and therefore Aurizon is subject to the same price risks as its customers in procuring electricity;
- the role of the ongoing investment and utilisation of the overhead power system as a key facilitator of the Aurizon Group's Climate Strategy and Action Plan to reduce its scope 2 emissions and to assist customers with reducing their own scope 3 emissions; and
- the significant investment by Aurizon Network in the CQCN overhead power traction system.

The strength of these incentives is evidenced in the initiatives and actions Aurizon Network has pursued to lower costs on behalf of customers and improve the competitiveness of electric traction. These initiatives include:

- Optimisation of network requirements through disconnection of Feeder Stations in Blackwater (Rocklands and Dingo), and Goonyella (Moranbah South) from July 2017, estimated to have realised savings of \$20m in electrical connection cost savings over a five-year period;
- Removal of Harmonic Filters in the Blackwater System through alignment of fleet across corridors. This resulted in cost savings of approx. \$3.5m in prospective harmonic filter asset renewals in the Blackwater System over a five-year period (from FY18);

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

As electricity is procured through an authorised retailer, the terms and conditions of those supply arrangements, including the negotiation and the price outcomes, are subject to stringent confidentiality obligations. This substantially limits the extent to which customers can be practically involved in how Aurizon Network procures electricity for the benefit of users of the overhead power system.

² A PPS block represents the agreed price in \$/MWh for an amount of load as a percentage of the total load applicable for a particular quarter.

4. Electricity Cost Recovery Arrangements in the Access Undertaking

The costs of procuring and on-selling electricity through an ESA are currently recovered through the EC tariff component and are subject to the true up provisions specified within Schedule F where the annual EC tariff is to be published on or about the 31 May for the forthcoming year:

'after Aurizon Network seeks and obtains the QCA's approval for a new electric energy charge and Variable Connection Charge (taking into account any over or under recovery in the previous Year)'

In assessing the proposed EC tariff, the QCA must have regard to clause 2.6(b)(ii) of UT5 which provides that Aurizon Network cannot be required to sell or supply electricity on terms that would be unreasonable or uncommercial. This requirement has generally been satisfied both in past years and with this EC DAAU, through the application of cost pass-through arrangements of the costs of procuring electricity through an ESA. On the assumption that where an EC tariff is not a pass-through cost by rail operators to end customers, not passing on electricity charges through a revised EC tariff would require Aurizon Network to unreasonably bear what would be an above-rail cost.

It is also relevant to note that Aurizon Network is not being compensated for pricing risk associated with electricity supply for the benefit of its customers. While it is feasible that Aurizon Network could assume cost risk with appropriate compensation for the risk in on-selling electricity, this approach has previously been rejected by the QCA. Prior to the implementation of progressive purchasing, electricity was procured from a retailer for a fixed price over the term of the agreement (generally 1-2 years). Aurizon Network's 2008 Draft Access Undertaking proposed that it receive a premium to compensate for the risks that electricity supply costs will exceed its forecasts. The QCA's draft decision did not accept this proposal and considered that *'it is more appropriate to adjust for actual costs in arrears, as part of the revenue cap unders and overs process'*.

Although the direct costs associated with on-selling electricity through the ESA are recovered through the annual EC reset adjustment process, the costs associated with managing and administering these activities are recovered through the approved operating cost allowances for the relevant Aurizon Network positions. The costs of any consultants required to support the procurement are not compensated for within the approved allowances. In addition, the true-up mechanism occurs on notional costs and does not include a time value of money adjustment for deferred recovery.

[REDACTED]

As Aurizon Network procures electricity through an electricity retailer, it has no direct commodity exposure to the wholesale cost of electricity.

[REDACTED] Aurizon Network also notes the use of financial derivatives would necessarily require a detailed engagement with customers and their endorsement to assume those risks which should form part of the consultation process on the procurement strategy.

In respect of the current June 2022 EC DAAU, consistent with good governance, Aurizon Network therefore sought to procure electricity for use by its customers under a negotiated ESA following a competitive tender process in which CleanCo was ultimately successful. Throughout that process, and in the negotiation of the ESA, Aurizon Network relied on the expert advice of its existing external consultants, Edge2020 which have been advising Aurizon Network since 2017.

Aurizon Network has previously submitted a DAAU to the QCA to also amend the EC tariff to give effect to costs of procuring electricity under a progressive purchasing strategy through an ESA. The June 2017

EC DAAU was submitted to the QCA on 6 June 2017 to amend the EC tariff for the period commencing 1 July 2017. In approving this DAAU, the QCA observed³:

The DAAU provides for the efficient use of Aurizon Network's infrastructure by enabling supply of power at market prices to users of electric traction on the Goonyella and Blackwater system.

The June 2022 EC DAAU under consideration by the QCA relates to a progressive purchasing strategy under an ESA and should be treated in the same way as the 2017 EC DAAU.

5. Progressive Purchasing under the Prior ESA

In 2017, Aurizon Network introduced a progressive purchasing strategy for electricity to better manage price uncertainty in the electricity market. A competitive Request for Proposal (**RFP**) process was run by Edge2020 between March and April 2017, where offers were received from seven suppliers. Of the seven, [REDACTED] shortlisted suppliers were invited to provide best and final offers by 22 May 2017 and following a review [REDACTED], an ESA was executed with Stanwell on 9 June 2017.

Adopting a progressive purchasing strategy provided the opportunity to monitor electricity price movements and opportunistically lock-in the price for its electricity requirement in smaller blocks. This approach, with Edge2020's guidance on purchase timing, was supported by an approved internal governance process to ensure appropriate risk management. The decision to move from a fixed price-fixed retail contract model to a progressive purchasing arrangement followed engagement with Customers and was supported by the QRC's Rail Working Group.

Following execution of the ESA, initial block purchases were made for Q3 2017 and Q4 2017 at the prevailing market rates on 9 June 2017. Aurizon Network's June 2017 Electric Charge DAAU noted the costs of purchasing at the prevailing market rates represented a 46% increase in the EC tariff from the prior year due to market conditions at the time of execution of the ESA and the timing of the initial purchases.

In approving the 2017 Draft Access Undertaking, the QCA's Final Decision also noted⁴:

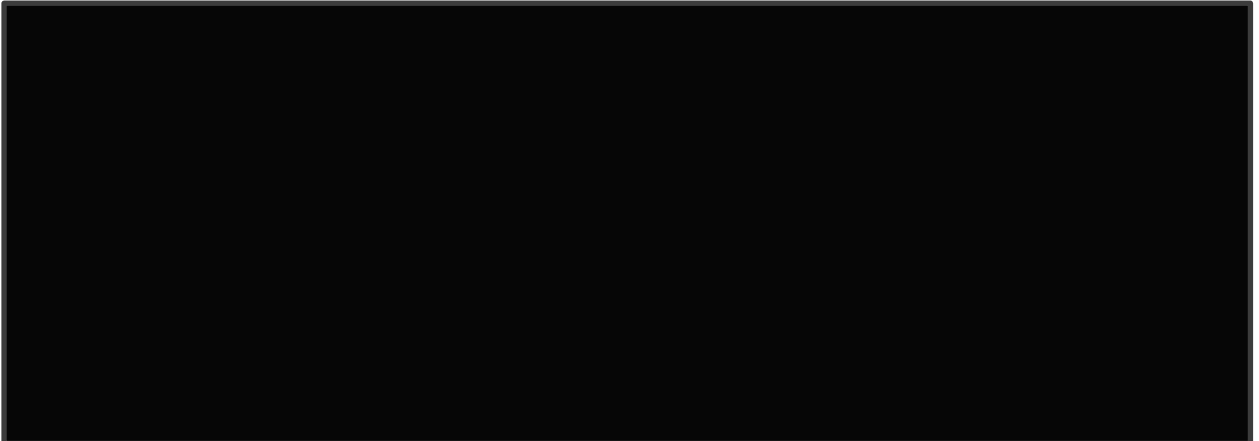
Procuring energy through a traditional fixed-price retail contract typically provides reasonable price stability, insulating customers from potentially significant short-term price volatility in the wholesale electricity market. To offer this stability, retailers bear the short-term price risk on behalf of the customer, hedge that risk, and are compensated in the form of a margin. In contrast, progressive purchasing exposes Aurizon Network's electric traction customers to significant short-term price risk, which must be managed effectively.

The QCA identifies that the use of progressive purchasing exposes the customers to significant short term price risk. While this is correct at the time of commencement of a new ESA, as observed in June 2017, over the term of the ESA customers are provided a price which better reflects a stable long-term average, depending on the pattern of block purchases. This is observed in the performance of the progressive purchasing arrangements outlined in Figure 1 which shows an initial elevated market price consistent with the prevailing market conditions and then providing a stable average price over the term of the ESA relative to the ASX Quarterly Average Price.

³ Queensland Competition Authority (2017) Approval: EC tariff draft amending access undertaking (June 2017 EC tariff DAAU), p. 1. <https://www.qca.org.au/project/aurizon-network/2016-access-undertaking-ut4/ec-tariff-daau/>

⁴ Queensland Competition Authority (2018) Final Decision: Aurizon Network 2017 Draft Access Undertaking, p. 186, https://www.qca.org.au/wp-content/uploads/2019/05/34327_Final-decision-1.pdf

Progressive purchasing should provide an opportunity to limit the impact of annual repricing risk rather than acting to eliminate price volatility. The effect should be the smoothing of the pricing profile over the contract term whereby it is expected to achieve a moving average of the tradeable pricing (i.e. following the curve). In contrast, under a fixed price approach, a medium-term price is secured at specific intervals (i.e. contract expiry) subjecting the purchaser to locking in the impact of the prevailing conditions at the point of time for recontracting. Progressive purchasing increases the pricing decision points and so while the price is regularly adjusted as market prices move (but adjusted annual through the approved EC rate), the impact of any short-term volatility does not persist over the term of the contract.



The figure also shows that changes in the realised quarterly price under the progressive purchasing strategy have been less volatile than average quarterly prices in the NEM. These price outcomes are largely determined by block purchasing timings on advice from Edge2020. All blocks were purchased for the period Q118 to Q222.

Aurizon Network anticipates that, subject to market conditions, a similar pattern of realised average price formation as additional blocks are purchased over time should occur under the new ESA commencing from 1 July 2022 and that customers will obtain the comparable relatively stable price outcomes under the new ESA that were provided under the expired ESA. However, given the current market conditions, it may take a longer period for the average contracted price for future quarters to stabilise.

6. Procurement, Negotiation and Purchasing under the new ESA

Aurizon procures electricity for each of Aurizon Operations Limited, for its non-traction sites in Queensland and New South Wales, and Aurizon Network for its traction sites in Queensland. There is a separate contract for each company. Aurizon is naturally incentivised to acquire electricity at an efficient price because it buys electricity for itself and for its related operator at the same rate as that which is payable by Aurizon Network's customers.

Given the proportion of Aurizon's overall electricity consumption attributable to Aurizon Network, employees of Aurizon Network are heavily involved in the procurement process and ongoing management of the relationship with expert consultant, Edge2020. The relevant duties for the procurement of electricity for the CQCN mainly sit within the Network Customer and Network Assets teams with the responsibilities being split across a number of positions. These positions were involved in the procurement process, with the support of Procurement, Treasury, Network Legal and Network Finance teams.

In mid-2020, Aurizon commenced its consideration of a renewal of the ESA, and also considered the inclusion of renewable energy within its portfolio. Aurizon's early investigations sought to better



understand the range of renewable products available on the market, and how these could be incorporated into Aurizon's existing progressive purchasing arrangements, prior to releasing an RFP to market.

Aurizon undertook a complex, multi-supplier and multi-product competitive market process for a replacement ESA with the expectation that those negotiations and contract execution would be completed by the end of February 2022. The negotiation process, complicated through the incorporation of a 25% renewable energy component, took more time than anticipated to adequately address various issues with the preferred proponents draft ESA. Addressing these issues was necessary to promote the longer-term interests of Aurizon Network's customers over the full duration of the new ESA.

The following steps were undertaken as part of the procurement process:

a) Market Sounding

In November 2020, Edge2020 undertook initial market sounding, engaging with suppliers on renewable options. Various products were on offer, and available to be contracted within a progressive purchasing arrangement.

At that time, [REDACTED]

b) RFP Development

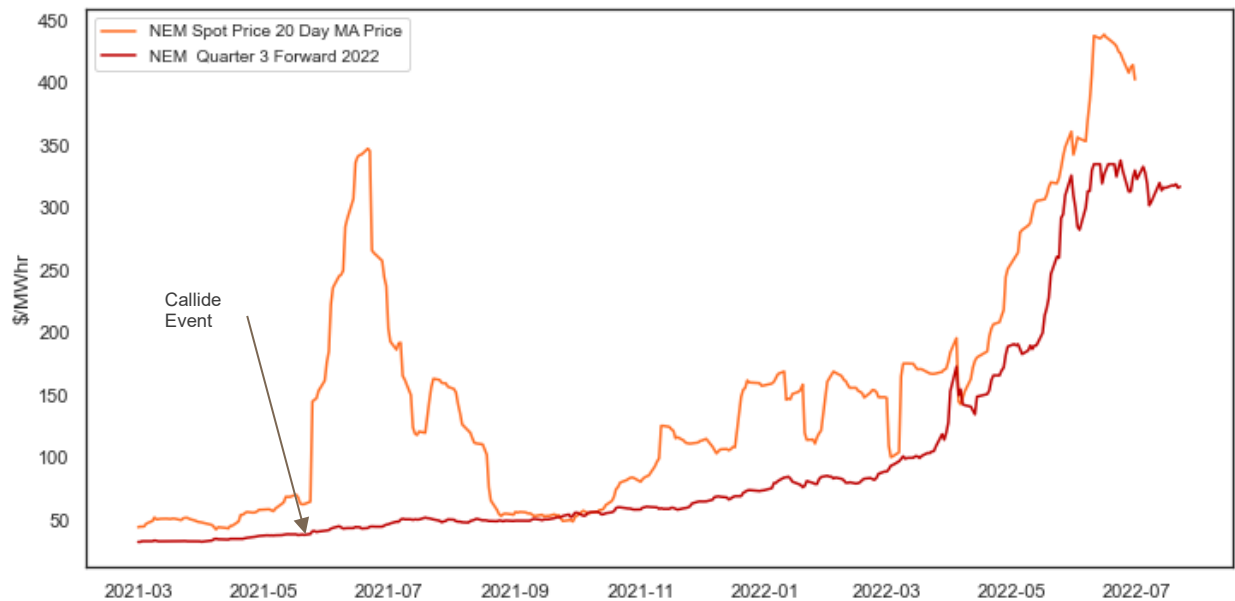
Edge2020 was engaged to manage the RFP process through to awarding of the ESA, [REDACTED] Aurizon and Edge2020 jointly developed the RFP, commencing in March 2021. Due to the renewable options available, this RFP sought offers for standard black energy progressive purchasing and also provided an open option for retailers to provide an offering for renewable energy. The RFP documentation was largely finalised internally by April 2021.

In recognition of the longer-term value of the procurement of energy, Aurizon intended to leverage the expertise of an in-house energy procurement specialist and delayed the issue of the RFP to go to market for this procurement specialist to participate in the final review of the RFP. This recruitment process was conducted through periods of COVID restrictions and disruptive workplace arrangements. Aurizon was unable to attract a suitably qualified specialist in the two recruitment processes undertaken and ultimately engaged a general procurement specialist to work with Edge2020.

In parallel, Aurizon sought an extension to the Stanwell ESA in order to minimise the risk of market variations occurring with the prolonged RFP process. Stanwell provided terms and conditions similar to that of the existing ESA. However, in May 2021, an unexpected failure at Callide Power Station caused a large jump in electricity prices. Due to the extensive nature of the failure, there was increased pricing volatility and uncertainty. [REDACTED]

[REDACTED] it was decided not to proceed with the extension, but to proceed with the RFP. The impact of this event and the subsequent tightening of forward prices is evident in Figure 2.

Figure 2 Impact of Callide Event on Spot and Q3 2022 Forward Prices⁵



Source: ASX Energy, Aurizon Network Analysis

The RFP was subsequently released to the market in August 2021, targeting finalisation of the process by December 2021.

c) Evaluation and Shortlisting

The RFP process saw 88 offers received from 9 electricity providers comprising both progressive purchasing and fixed price offers. [REDACTED] providers were shortlisted with cost, product structure and flexibility given majority weighting as part of the evaluation process. As part of this shortlisting, three standardised options were developed for the renewable energy component, seeking firm offers for inclusion of either a 20%, 25% or 45% renewable energy blocks

In September 2021, [REDACTED] agreed to a shortlist of [REDACTED] retailers to seek Best and Final Offers (BAFO) from.

d) Best and Final Offers

A first round of BAFO were sought in October 2021. A subsequent request for BAFO was released in November seeking firm offers for inclusion of either a 20%, 25% or 45% renewable energy blocks to enable like for like comparisons. Given the ongoing volatility in the market, there was material movements between October and December from retailers on key terms and conditions. Improving offers were received from retailers during this period, providing more flexibility, and alignment on RFP requirements. Final offers were received from shortlisted suppliers in December 2021. In January 2022, following completion of analysis, [REDACTED] proceed to contract negotiations with CleanCo.

⁵ Only Q3 2022 Futures have been included in this graph as they are of most relevance to the initial purchasing period for the new ESA.

e) Contract awarded and negotiation

Aurizon was seeking to finalise the contract negotiations and executions by the end of February 2022, [REDACTED] expectations that there would not be protracted negotiations due to the terms provided by CleanCo as part of the RFP process.

Aurizon was provided a revised draft ESA from CleanCo on 15 February 2022. [REDACTED]

[REDACTED] Aurizon Network did not accept the terms of the ESA provided by the retailer as being in the long-term interests of its customers and the material issues which were required to be negotiated before execution are summarised in Appendix 3. Legal reviews by Aurizon's legal advisers noted material issues relating to charges, progressive purchasing pricing and renewable energy. [REDACTED] potential to expose Aurizon and its customers to material risk and the potential for increased costs and charges. [REDACTED]

Therefore, it was important, to address risk and provide for more favourable customer outcomes over the full term of the ESA, for these matters to be effectively resolved prior to execution of the contract.

Over the course of the negotiation with CleanCo, substantial contract amendments were made between March and June, with material issues taking several iterations and meetings to resolve. The final terms of the contract were agreed on 8 June 2022, and the ESA was executed the following day.

f) Customer consultation

Throughout the process for the ESA renewal, Aurizon Network provided updates and consulted with customers. The nature of this consultation largely focused on the option to include a block of renewable energy within the portfolio, which required a change to the existing endorsed progressive purchasing regime.

Initial consultation occurred with customers in July 2021, through direct engagement with customers by their Customer Account Managers. This engagement sought individual customer feedback on the concept of incorporating renewable energy into the portfolio. Informal feedback at the time was favourable, providing that the renewable energy pricing was competitive. Customers were advised that Aurizon intended to run an RFP process and would advise customers of the outcome of the RFP once finalised.

More detailed consultation occurred in January 2022 with the QRC's Rail Working Group (refer Appendix 4), seeking customer feedback on the finalised offerings and recommendation to incorporate a 15MW renewable block into the energy portfolio. At that point, Aurizon was targeting execution of the ESA by the end of February 2022, and consequently formal feedback was not provided by the Rail Working Group. Informal feedback from this engagement included:

- *Whether more information on pricing could be provided.* This information could not be shared due to confidentiality restrictions, however any premium for renewable energy was discussed as a percentage increase or decrease on the wholesale electricity price. Additionally, at this time, Aurizon Network was not in a position to discuss the impact of pricing on the EC tariff, due to the ongoing commercial negotiations. Such discussions could not be had until prices were confirmed;
- *Whether additional renewable energy could be procured at a later time.* This flexibility has been incorporated into the contract;

- *Clarity on the separation of procurement activities between Aurizon Operations and Aurizon Network to ensure Aurizon Network does not offset Aurizon Operations targets.* This has been ensured through individual agreements; and
- *General questions on what Large-scale Generation Certificates are and how they interact with the ESA, how volume volatility affects electricity costs, and what other companies are doing in the market regarding renewable energy.*

Answers to each of these questions were provided via email to Gary Costello as representative of the Rail Working Group in March 2022. A general update was also provided, confirming negotiations with the retailer were still ongoing, and contract execution was at that time anticipated in April 2022. An offer was also made to engage and meet with the Rail Working Group to discuss further, however this offer was not taken up.

g) Implementation and Purchase of Q322

Aurizon Network has worked with CleanCo taking the advice of Edge2020 to obtain the following favourable purchasing outcomes:

[REDACTED]

[REDACTED]

These purchasing outcomes reflect the efficient costs prevailing in both the spot and contracts markets for Quarter 3 2022 at the time the electricity purchases were completed. The ACCC 20 June 2022 addendum to the May 2022 Electricity Market Inquiry report acknowledges with respect to pricing outcomes at that time:

*these price rises are significant and **unprecedented**. Retailers have been impacted by the sudden and **extreme** increase in spot market prices. As at 15 June 2022, one electricity retailer has exited the market. A number of other retailers are foreshadowing very large price increases and encouraging their customers to seek supply elsewhere⁶.*

These purchasing outcomes are less favourable than those that might have been obtained in hindsight if hedging activity had occurred before these extreme and unprecedented price movements. However, in an efficient market those prices were equally likely to have decreased and Aurizon Network would have also exposed its customers to hedging losses. Nevertheless, Aurizon Network notes Customers may not have budgeted for an increase in the EC tariff to the extent reflected in the EC DAAU arising from the extreme and unprecedented price increases observed in the NEM since the end of April 2022.

⁶ Australian Competition and Consumer Commission (2022) Inquiry into the National Electricity Market: Addendum to the May 2022 report, June 20, p. 1 <https://www.accc.gov.au/media-release/accc-updates-on-recent-electricity-market-challenges>

The terms of the ESA ensure that the prices obtained for procuring electricity reflect efficient costs as prices are determined with reference [REDACTED] up to Q1 2024 at which point Aurizon will have 25% renewable energy offtake from renewable sources. [REDACTED]

The following section discusses the market conditions and events that resulted in these price outcomes and why they were not foreseeable.

7. Material, Unprecedented and Unforeseen Changes in the National Electricity Market

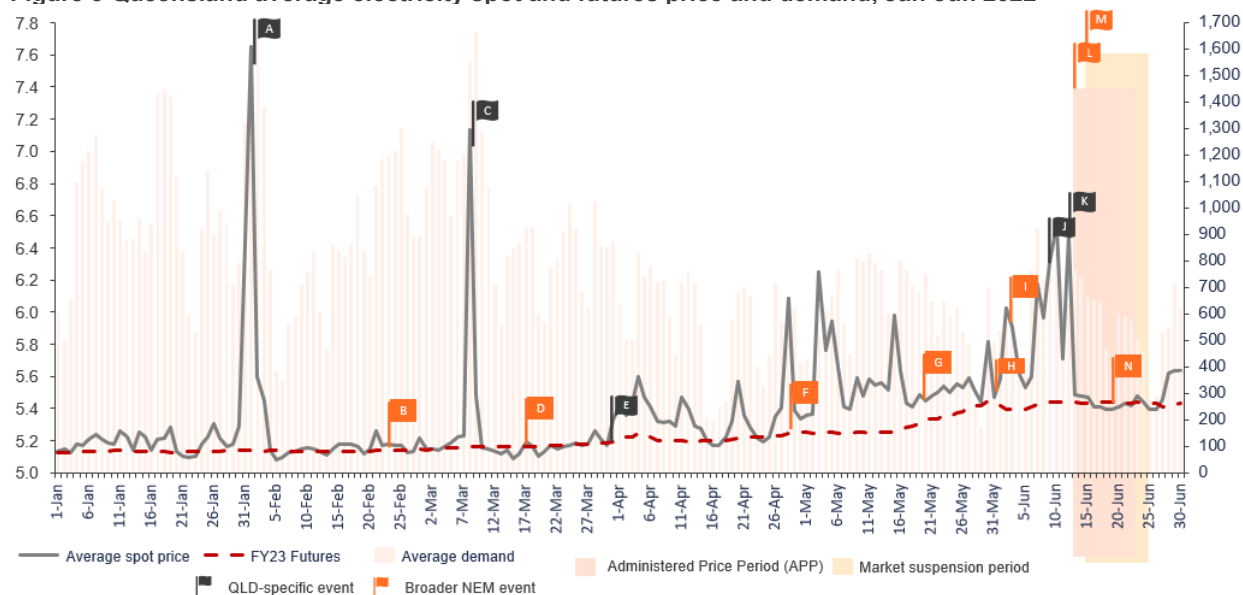
The EC tariff included within the EC DAAU represents the projected costs of procuring electricity from the NEM for the full year FY23 based on the prevailing forward prices as at June 2022. These costs, which reflect the competitive market price for the supply of electricity, are an outcome from the confluence of various market disruptions identified by the ACCC that are not a consequence of decisions by Aurizon Network.

Notwithstanding a small contribution from higher electricity demand (which has also occurred during the second quarter in some of the prior years), some of the key issues contributing to the unprecedented energy market conditions which ensued in Q2 2022 were on the supply side and included the following:

- Lower coal-fired plant availability due to higher unplanned outages in the southern States resulting in Loss of Reserve (LOR) conditions being triggered across the NEM;
- Higher proportion of time (17%) over which higher cost generation (gas and hydro) set the spot price in Queensland compared to Q2 2021;
- Substantially higher coal (158% increase in export price over 6 months to 30 June) and gas spot prices (246% increase in domestic price over the same period); and
- Exposure of marginal dispatchable generators (coal, gas and hydro) to those higher fuel prices, to procure additional fuel quantities to alleviate LOR conditions, reflected in the high average spot price set across the NEM by those fuel types in Q2 2022 – black coal \$230/MWh, gas \$320/MWh and hydro \$303/MWh.

The unsustainably high spot prices in QLD and other NEM regions resulting from the above developments triggered the Administered Price Cap (APC) being applied in mid-June, followed by an unprecedented NEM-wide market suspension. Figure 3 shows the movement in prices over the period of January to June 2022.

Figure 3 Queensland average electricity spot and futures price and demand, Jan-Jun 2022



Sources: Aggregated Price and Demand Data (2022); AEMO – Quarterly Energy Dynamics Q2 Report (2022); ASX - QLD Baseload Futures (2022); Energy Insights – Timeline to the perfect storm (August 2022); Aurizon Network Analysis.

The summary of these events flagged in Figure 3 and the corresponding spot and futures price outcomes are summarised in Table 1.

Table 1 Events in the NEM and the Movement in Queensland Spot and Futures Prices

Flag	Date	Spot Price \$/MWh	QLD FY23 baseload Futures Price \$/MWh	Demand MW	Description of Event
A	1 Feb	\$1,608	\$85	7,575	High demand driven by high temperatures (35°C), reduced availability due to 1,840 MW of outages and network constraints limiting access to lower priced capacity in other regions of the NEM
B	24 Feb	\$104	\$84	7,004	Russia invades Ukraine, raising LNG prices worldwide, QLD FY23 baseload futures remain steady
C	8 Mar	\$1,297	\$97	7,560	High demand driven by high temperatures and humidity, reduced availability due to 1,330 MW of outages and a constraint managing a planned outage in NSW limited Queensland’s access to lower priced capacity in other regions of the NEM
D	18 Mar	\$98	\$101	6,527	Flooding seriously limits coal capacity in the Hunter Region, with open cut mining suspended, marks the start of a fortnight of rising QLD FY23 baseload futures prices
E	1 Apr	\$249	\$135	6,060	Highest overnight increase of 13% in QLD FY23 baseload futures price, followed by further rises and then a drop to \$110 by 13 April

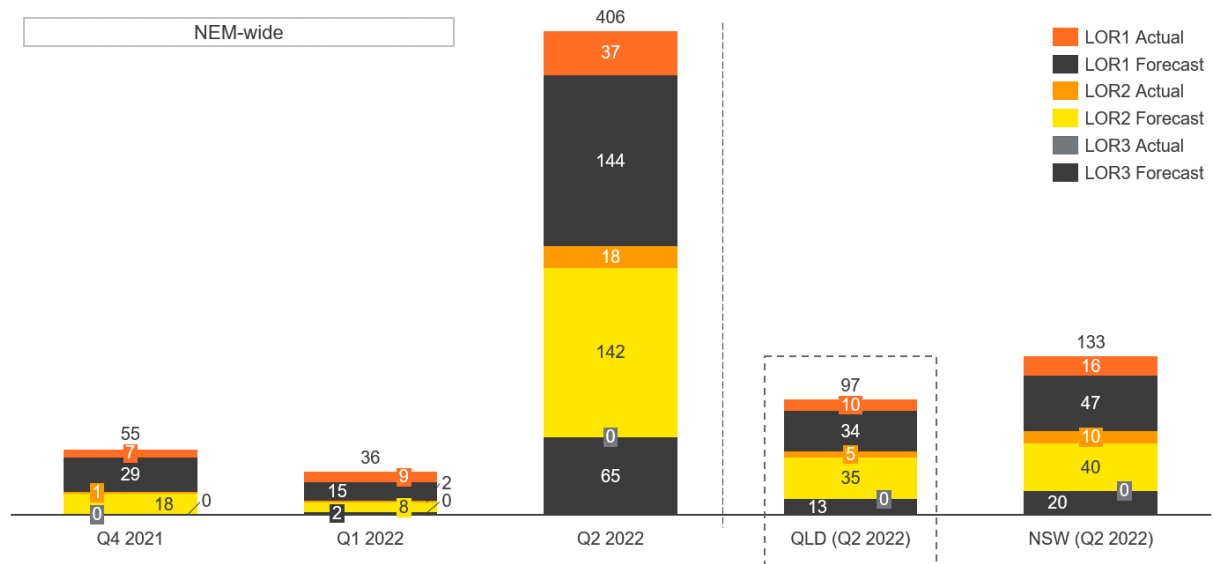
	Flag	Date	Spot Price \$/MWh	QLD FY23 baseload Futures Price \$/MWh	Demand MW	Description of Event
F		29 Apr	\$234	\$154	6,018	AEMO announces wholesale price up 141% on Q1 2021 driven by increased demand, coal generator outages and higher fuel costs
G		20 May	\$271	\$203	6,240	First energy retailer collapses, with two more to follow that fortnight (LPE, Weston, Pooled), QLD FY23 baseload futures price rises by 9% overnight (and by 28% over the prior 5 trading days)
H		31 May	\$286	\$259	5,810	AEMO imposes gas price cap in Victoria, QLD FY23 baseload futures price rises 20% over the week to 31 May
I		3 Jun	\$549	\$240	6,068	Snowy Hydro announced capacity constrained due to high rainfall
J		9 Jun	\$790	\$270	6,326	New Q2 record for Queensland operational demand maximum and intra-day swing
K		12 Jun	\$895	\$270	6,050	Queensland cumulative price threshold breached
L		13 Jun	\$297	\$270	6,264	Administered Pricing commenced
M		15 Jun	\$283	\$265	6,089	AEMO suspends the market
N		19 Jun	\$241	\$259	5,660	AGL's Bayswater plant comes back into service, unexpected outage at Origin's Eraring power station

The significant and unprecedented nature of these events is evident in the first ever market suspension in June 2022 following a reduction in the capacity of dispatchable supply breaching various system reliability and security requirements and triggering market interventions across the NEM including:

- Retailer of last resort interventions;
- AEMO triggered the Gas Supply Guarantee and called an assessment conference with the Queensland LNG producers;
- APPs in the electricity market commenced in QLD on 12 June, followed by the other NEM regions on 13 June; and
- Reliability and Emergency Reserve Trader (RERT) reserves were activated in QLD on 15 June, in response to actual Lack of Reserve (1, 2 and 3) conditions.

In addition, as shown in Figure 4, a historical record of 406 individual LOR conditions⁷ were declared across the NEM, prompting AEMO to issue multiple directions. An LOR condition signals an anticipated shortfall between supply and demand needed to maintain network reliability. Across the NEM, most of the LOR conditions were due to decreased generation availability (including energy limitations) and increased forecast demand with the LOR conditions in NSW and QLD mainly driven by reduced generation availability and unseasonably high demand forecasts on certain days during May – June.

Figure 4 Lack of Reserve (LOR) conditions declared in the NEM and QLD & NSW

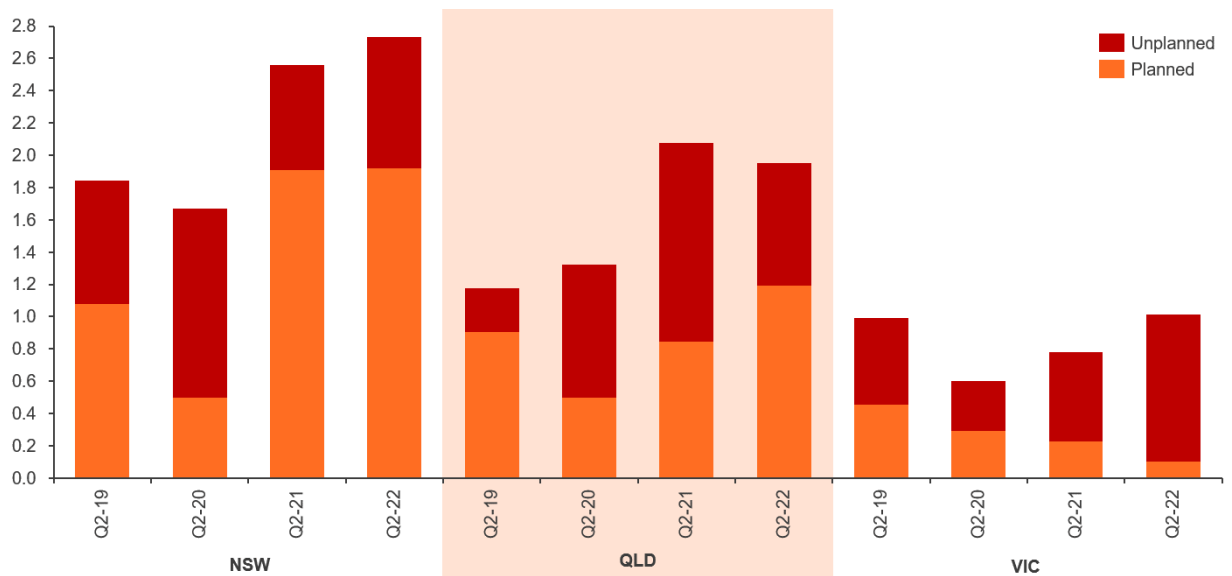


Sources: AEMO – NEM Lack of Reserve Framework Report 1 April to 30 June (2022)

The market dynamics in the NEM have seen a significant shift in the composition of energy supply and therefore which fuels serve to set the marginal price. This change in fuel composition is partially attributed to the decline in thermal generation with average black coal-fired generation across the NEM declining to 10,217 MW (a reduction of 8.5% on Q2 2021), its lowest Q2 output since commencement of the NEM). In Queensland, coal-fired generation output declined by 111 MW on average, driven predominantly by planned and ongoing outages at Callide C3 and C4 and some Gladstone units (offset partially by increased output from Callide B and Kogan Creek) as shown in Figure 5.

⁷ See AEMO for an explanation of LOR <https://aemo.com.au/en/learn/energy-explained/energy-101/aemo-market-notifications-explained>

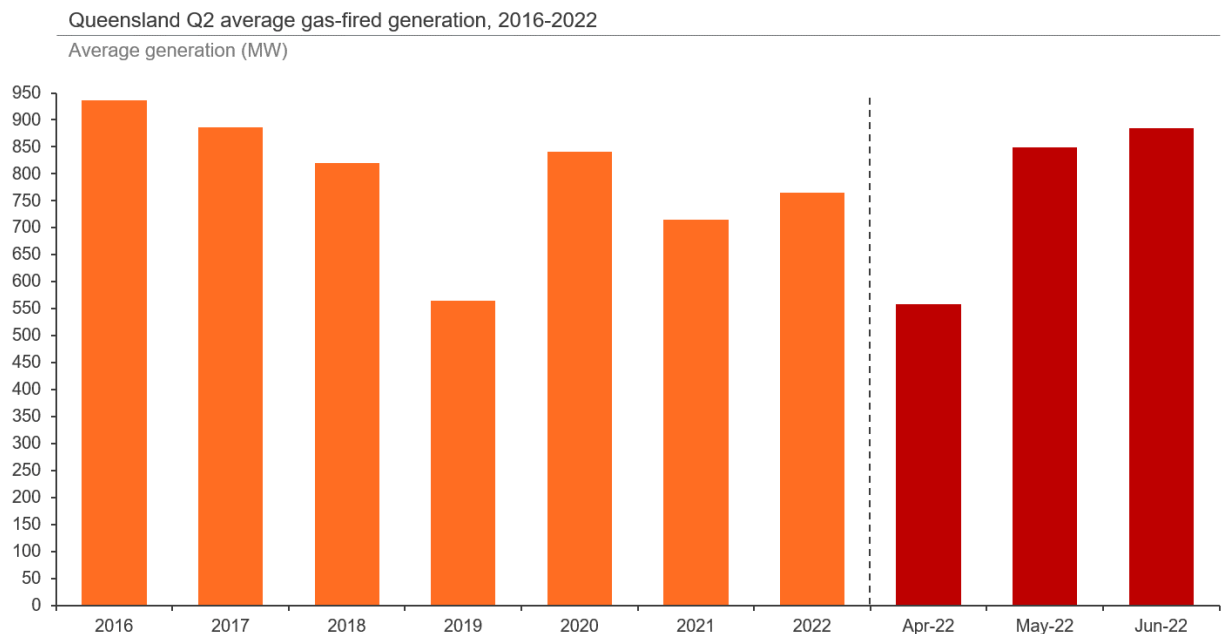
Figure 5 Q2 coal outages by classification, 2019-2022 (Average Outage '000MW)



Sources: AEMO –Quarterly Energy Dynamics Q2 Databook –Figure 36 (2022); AEMO –Quarterly Energy Dynamics Q2 Report (2022)

The reduction in thermal plant availability has also resulted in additional gas fired generation being required in Queensland in Q2 2022 to meet part of this shortfall. Demand for gas-fired generation in Queensland increased by 7%, or 50MW, in Q2 2022 (compared to Q2 2021) as shown in Figure 6. This is combined with gas-fired generation increases observed across other NEM states in Q2 2022 (over Q2 2021), with only South Australia seeing a decrease due to planned outages of gas plant and an improved contribution from wind farms.

Figure 6 Queensland Q2 average gas-fired generation, 2016-2022 (Average generation (MW))



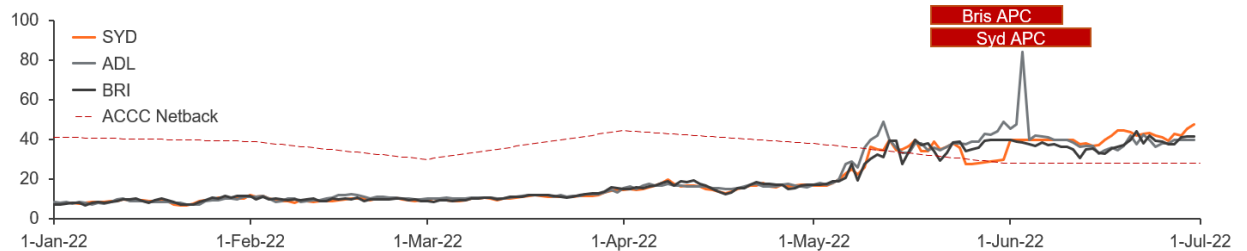
Sources: AEMO –Quarterly Energy Dynamics Q2 Databook –Figure 36 (2022); AEMO –Quarterly Energy Dynamics Q2 Report (2022)

High international gas prices flowed through to east coast domestic markets driving administered price caps. AEMO gas markets (across the declared wholesale gas market (**DWGM**) and the short-term

trading market (**STTMs**) averaged prices of \$28.40/GJ in Q2 (up \$20.20/GJ or 246% on Q2 2021) and the ACCC LNG netback price averaged \$36.81/GJ in Q1 and \$36.87/GJ in Q2, while STTM markets averaged \$10.05/GJ in Q1 and \$29.42/GJ in Q2

As Figure 7 shows, the ACCC LNG netback price exceeded the STTM markets by over \$15/GJ in Q1 but was materially consistent with (and even below) the STTM during Q2, primarily due to significant increases in gas-fired generation related demand for east coast domestic gas in Q2.

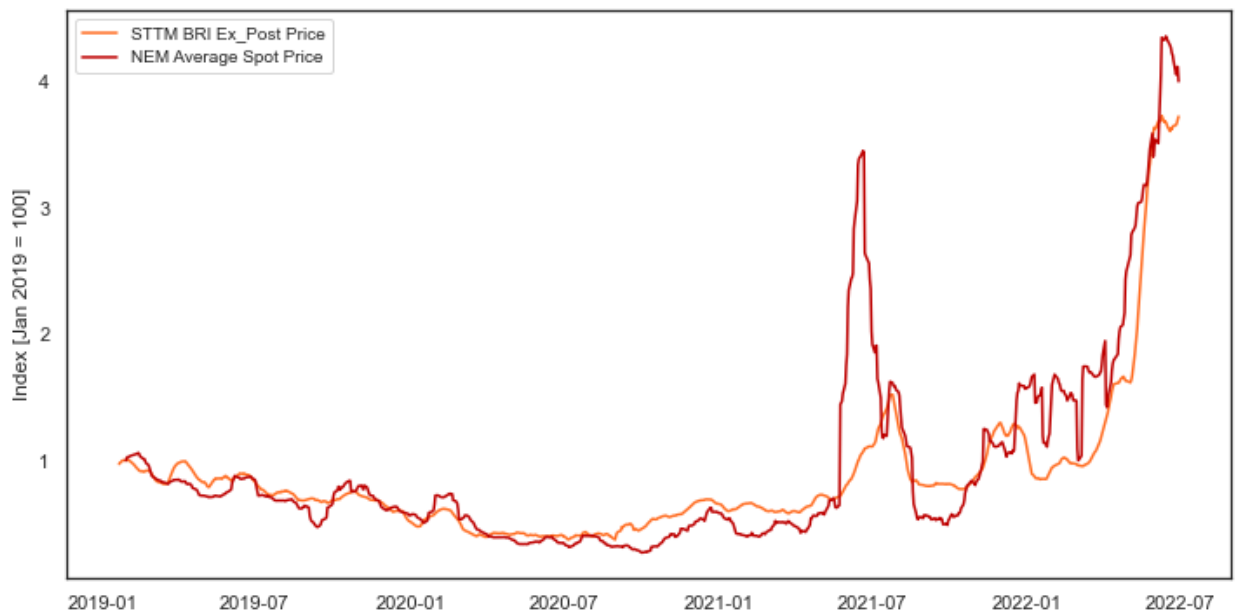
Figure 7 Short-term Trading Market Gas Price, Q1 and Q2 2022 (AUD \$/GJ)



Sources: ACCC – LNG netback price series (2022); AEMO market notices

The ACCC observed in its addendum to the May Electricity Market Enquiry reports that ‘since we prepared the May 2022 report, gas spot prices on the east coast have surged to unprecedented levels. Domestic prices are now well above international prices’. The role of gas prices in the determination of wholesale electricity spot prices can be observed in the high correlation between the two commodities in Figure 8.

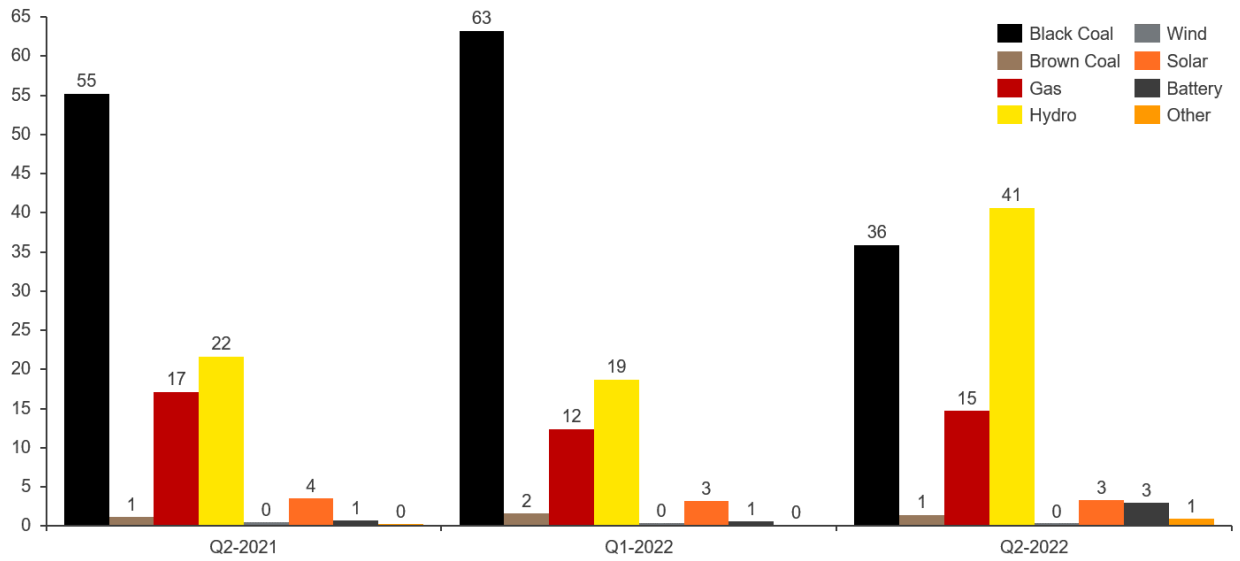
Figure 8 Average NEM Spot Price and STTM Ex-Post Price Brisbane



Sources: ASX Energy, AEMO, Aurizon Network Analysis

In addition to gas, hydro also played a greater role in setting spot prices as the availability of coal-fired generation declined as shown in Figure 9. The availability and pricing of coal and gas also provided more market-based generation and pricing opportunities for hydro plant, with its share of price-setting more than doubling from Q1.

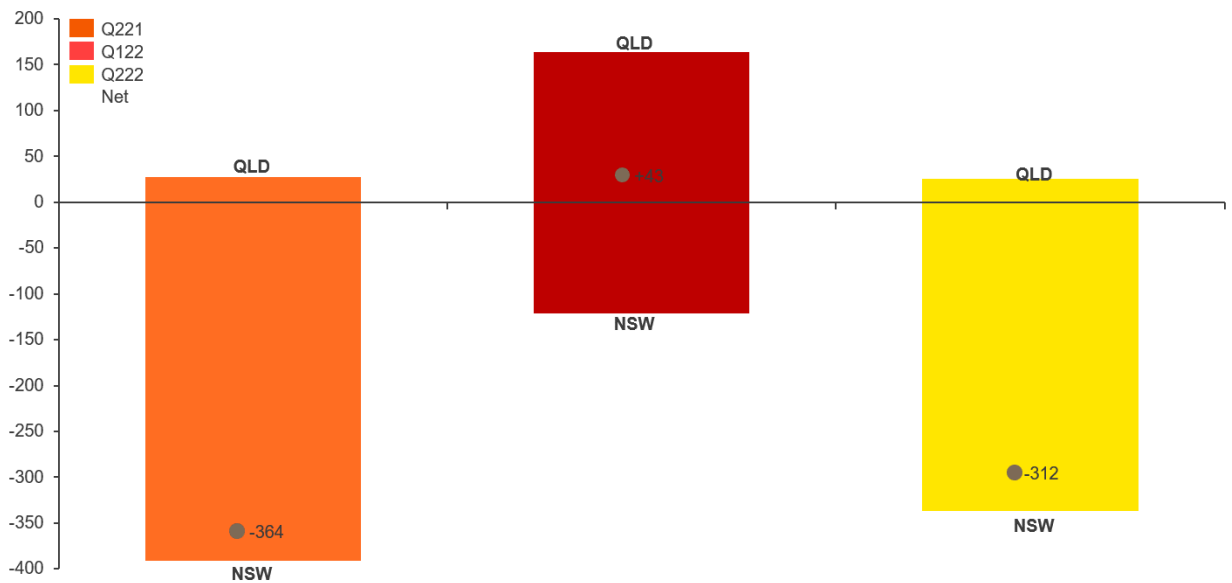
Figure 9 QLD Price-setting by fuel type, 2021-2022 (Frequency %)



Sources: AEMO – Quarterly Energy Dynamics Q2 Databook – Figure 24 (2022); AEMO – Quarterly Energy Dynamics Q2 Report (2022)

The reduction in generation capacity in Queensland also resulted in higher interregional transfers between New South Wales and Queensland with higher spot prices, large absolute price differences between regions, and episodes of regional price volatility producing the highest quarterly level of positive inter-regional settlement residues (IRSR) (\$156 million) since the current regional structure of the NEM was established in July 2008. Net imports of electricity from NSW to QLD occurred in Q2 2022 with some marginal price outcomes in QLD taking their lead from southern prices. With coal plant outages also active in NSW, gas and hydro generation in NSW contributed to a higher proportion of the price setting for the quarter. Historically, generating capacity shortfalls in one jurisdiction would be addressed through inter-regional flows using excess capacity from the other region, typically QLD to NSW.

Figure 10 New South Wales – Queensland inter-regional transfers, 2021-22 (Transfers (MW))



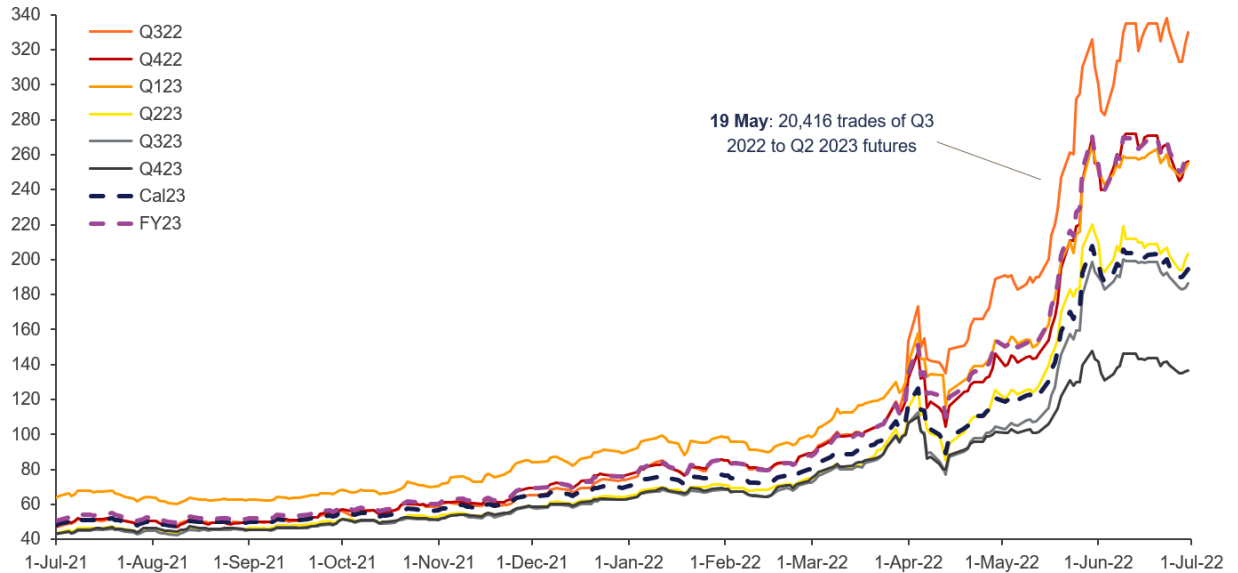
Sources: AEMO – Quarterly Energy Dynamics Q2 Databook– Figure 50 (2022); AEMO – Quarterly Energy Dynamics Q2 Report (2022)

The extremely high spot prices and volatility coupled with generator reliability concerns, in addition to higher future fuel cost expectations, drove up FY23 futures prices with Calendar 2023 baseload futures

prices increasing sharply, from an average of \$94/MWh for the four mainland NEM regions at the end of Q1 2022, to finish Q2 2022 at \$168/MWh.

Queensland 2023 futures prices rose sharply over the period as shown in Figure 11 and grew to more than triple (FY23) or double (Calendar 2023) over the 6 months to 30 June 2022 (with the largest monthly movement in April-May), notwithstanding that Q3 and Q4 2023 prices rose the least over this time.

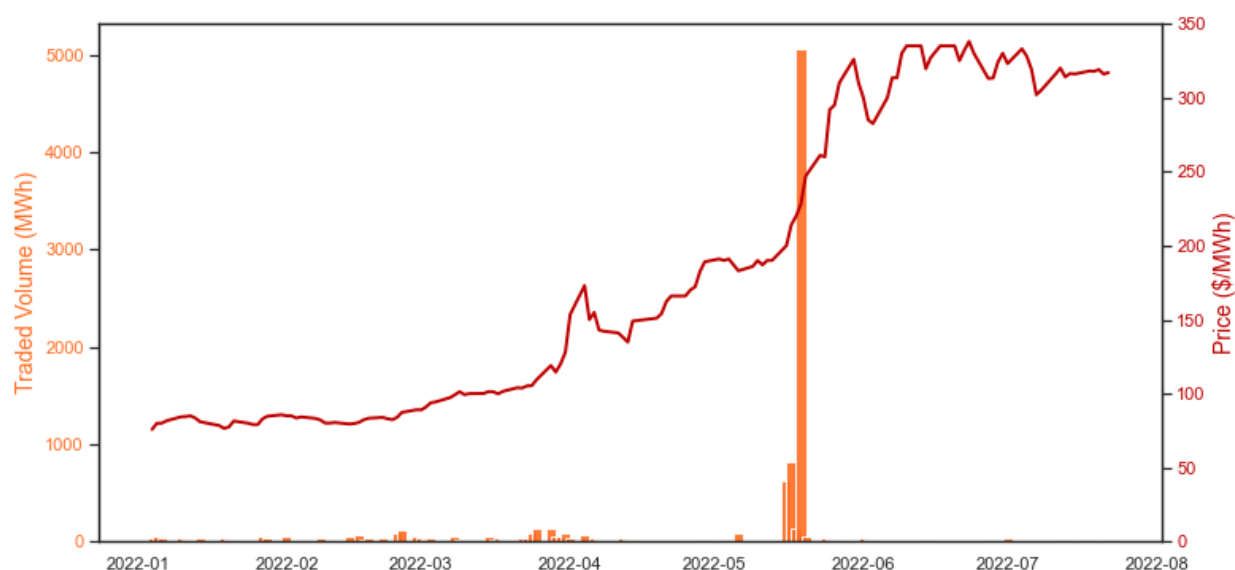
Figure 11 Queensland ASX Futures, 2021-2022 (Price \$/MWh)



Sources: ASX – Queensland Baseload Futures Pricing (2022)

As part of the QCA's assessment of the regulated electricity prices for regional Queensland in FY23, the QCA assessed the level of market activity in futures market for base contract prices. Aurizon Network has undertaken a similar exercise to evaluate the extent to which market participants anticipated the extreme price movements in the spot market and the corresponding increase in base contract prices for Q3 2022. It is evident from Figure 12 that market participants did not foresee the material increase in contract prices with 73% of the trading activity between January and June 2022 occurring after 15 May 2022, with approximately 6650 MWh being traded over the period 16-19 May 2022. This indicates that market participants either expected the supply constraints to ease, with spot price returning to long run marginal fuel costs, or they maintained large unhedged positions and responded accordingly once further market disruptions became evident.

Figure 12 Queensland ASX base contract prices and trading volumes (Q3 2022).



Sources: ASX Energy, Aurizon Network Analysis

The extreme, unprecedented and unforeseen increases in both the spot and contract prices have resulted in significant financial impacts to market participants and customers. This has particularly impacted tier 3 retailers. All energy retailers have some exposure to spot markets, however, the business models of some Tier 3 retailers which offer variable price plans substantially and unsustainably exposed them to the meteoric surge in electricity and gas spot prices. While those strategies served them well in providing the most competitive retail tariffs, they may have relied too heavily on an expectation that spot prices in the NEM would continue a steady and fast-paced decline with the penetration of renewables. Tier 1 and 2 retailers have been directed by the AER to take on the impacted customers through the retailer of last resort (ROLR) obligations.

In addition to the above, while not suspended, some electricity retailers (such as ReAmped and Nectr) urged their customers to find other retailers or face doubling of their power bill from 1 July 2022, in an attempt to minimise their own market exposures. This followed LPE ceasing its offering on 20 May 2022 prior to its collapse.

Table 2 ROLR Notices by AER

ROLR Notice Date	Retailer	Effected Customers (Jurisdiction)
24 May	Pooled Energy Pty Ltd	1300 (NSW)
31 May	Western Energy Pty Ltd	180 (Large and medium gas)
22 June	Enova Energy Pty Ltd	2,800 (residential, large and medium electricity NSW)
12 July	Power Club Limited	1,800 (residential, small and medium NSW and VIC)
20 July	Mojo Power East Pty Ltd	500 (residential small and large business NSW, QLD, SA)

Other larger electricity retailers are also experiencing significant financial costs and losses associated with these impacts. For example, on 8 August 2022 Hong Kong's CLP Group as owner of EnergyAustralia posted an approximate unrealised loss of A\$1.6 billion citing⁸:

EnergyAustralia faced considerable operational challenges in the first half of the year amid unprecedented conditions in Australia's energy markets. The business incurred high costs to settle forward contracts that could not be covered due to reduced generation at its biggest power stations, after tight power supply and high fuel costs led to a more than tripling in prices in the National Electricity Market (NEM) this year.

Aurizon Network also notes that Origin Energy informed the ASX on 1 June 2022⁹ that it was withdrawing forward guidance on earnings noting:

There is currently extreme volatility across commodity markets, driven by a combination of global energy supply and security concerns, exacerbated by the impact of the Russian invasion of Ukraine, with subsequent unprecedented increases in international energy prices including coal, gas and oil.....

Ongoing volatility in market conditions is likely and may adversely impact operations.....

Due to the factors outlined above, there is a very high degree of uncertainty around the range of earnings outcomes for the 2023 financial year. As a result, Origin has withdrawn all guidance for FY2023. Origin will continue to assess the outlook, with a view to providing an update at full year results in August.

The financial failures of small retailers and the material financial impact on large retailers is consistent with the unprecedented and unforeseen movements in spot and contract prices in electricity markets. The proposed EC tariff in the DAAU is reflective of these movements.

8. Assessment of the DAAU

A key observation of the above discussion is that the timing for completion of negotiations for the new ESA and for the purchase of the initial blocks in the next contract period is comparable to the outcomes under the prior ESA which was deemed to be prudent and efficient through the 2017 DAAU assessment process. Similarly, both arrangements have seen initial blocks purchased at market rates prevailing at the time of purchase. The only substantive difference between the two processes is the unprecedented and unforeseen disruption to the NEM discussed above.

The proposed EC tariffs reflect the cost of electricity in the NEM at the time of use of the network. Not approving the DAAU would have the effect of Aurizon Network providing electricity at a rate that does not at least reflect the efficient costs of providing access to the service at the time that service is being used. Similarly, given the materiality of the difference between the current wholesale costs of electricity and the current EC tariff, the non-approval of the DAAU would lead to further cost increases associated with the annual true-up mechanism and lead to a substantive increase in the EC tariff relative to the costs of supply under the ESA for that period. Such an outcome could have a compounding impact on the recovery of the efficient costs of Aurizon Network supplying electricity where wholesale electricity prices remain elevated above long run marginal costs.

⁸ CLP Holdings Limited (2022) Announcement of Interim Results as from 1 January 2022 to 30 June 2022, Dividend Declaration and Closure of Books, p. 10 [https://www.clpgroup.com/content/dam/clp-group/channels/investor/document/3-4-announcements-circulars/2022/e-Interim%20Results%20Announcement_\(20220808\)%20final.pdf.coredownload.pdf](https://www.clpgroup.com/content/dam/clp-group/channels/investor/document/3-4-announcements-circulars/2022/e-Interim%20Results%20Announcement_(20220808)%20final.pdf.coredownload.pdf)

⁹ Origin Energy (2022) Update on operating conditions and guidance, ASX Announcement, 1 June 2022, <https://www.asx.com.au/asxpdf/20220601/pdf/459jgbpyhk5nx7.pdf>

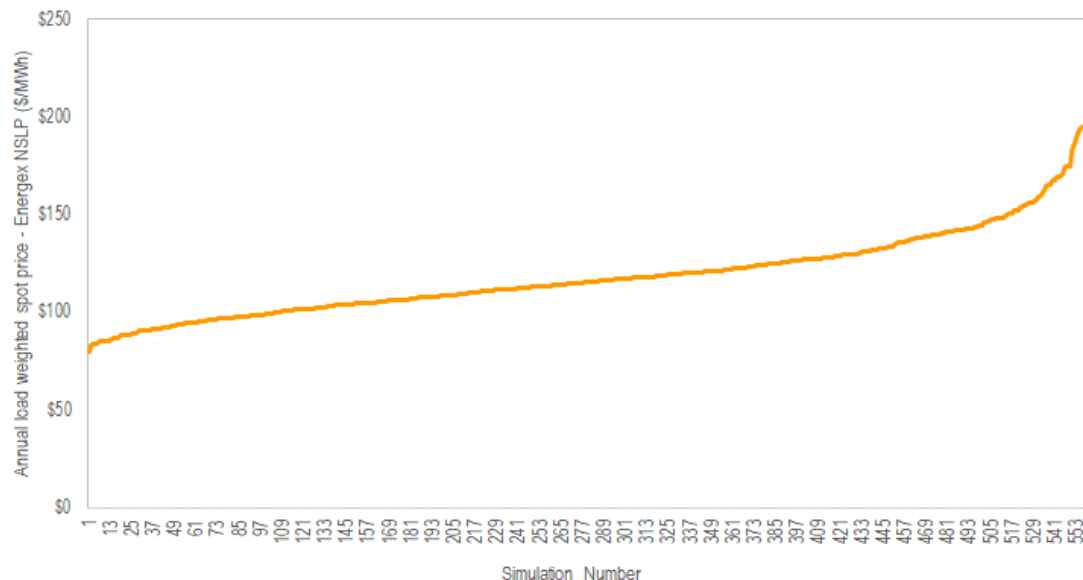
Aurizon Network acknowledges the concern expressed by the QRC that the proposed increase in the EC rate within the DAAU represents the most significant increase in the EC tariff Aurizon Network has ever sought QCA approval of, in either a DAAU or an Endorsed Variation Event. However, the materiality of the increase arises from the conditions prevailing in the wholesale electricity market and those conditions have also not been experienced since the commencement of the open access regime.

By not approving the proposed revised EC tariff, Aurizon Network would be supplying electricity on terms which would be unreasonable and uncommercial. Aurizon Network would also be assuming significant financial risks for which it is not compensated and the QCA has explicitly required Aurizon Network to recover only the direct costs of electricity supply from those customers which consume that electricity in operating train services.

Aurizon Network has diligently undertaken a procurement process to purchase electricity for users of electric traction on terms which are consistent with the interests of customers over the period of the ESA. While comparing the purchased price of electricity in June 2022 with rates which prevailed over the prior 6-month period can demonstrate that a lower price could have been obtained if the ESA had been executed earlier, this is not consistent with energy price expectations at that alternate point in time. There was no reason to expect forward prices to increase or decrease as those expectations would already be included in those market prices.

As market prices reflect all available information within the market, the events that have transpired to increase wholesale electricity prices were clearly not reflected in forward contract prices at those earlier points in time. For example, Acil Allen Consulting conducted simulations to inform the QCA's consideration of regulated electricity prices for regional Queensland for FY23¹⁰. The simulated unhedged wholesale electricity prices from those simulations undertaken in April and reproduced in Figure 13 indicate a very low probability of observing the wholesale electricity prices realised in May to June of 2022 (i.e. there was 0% probability of the price exceeding \$250/MWh). There is also no indication within the QCA Final Determination that it expected wholesale prices could materially exceed its forecast contract prices for Q3 2022.

Figure 13 Acil Allen Simulated Load Weighted Spot Prices



Source:

QCA, Aurizon Network Analysis

¹⁰ Acil Allen Consulting (2022) Energy Cost Modelling Data, Report for the Queensland Competition Authority, May, <https://www.qca.org.au/project/customers/electricity-prices/regulated-electricity-prices-for-regional-queensland-2022-23/>

The observed spot prices in the NEM from mid-May are not outcomes that would be obtained from normal probabilistic forecast models. These outcomes are of a ‘black swan’ type nature which is a term often used to describe extremely rare unpredictable events that cannot be predicted beforehand. However, like other black swan events there is a tendency to make inferences or draw conclusions after the event that it could have been foreseen or the impacts could or should have been avoided or managed.

In reviewing the EC DAAU under the statutory criteria in section 138(2) of the QCA Act, the QCA needs to have regard to the information available to decision makers at the relevant time those decisions were being made and not speculate on what other decision or action could have been taken had future events or information had been known at that time.

In assessing the impacts from the market determined increase in the EC tariff, Aurizon Network has also considered the relativity of the increase to:

- increases in the cost of fuel substitutes; and
- increases in export thermal coal prices and the impact the increase in the EC tariff might have on customers.

Figure 14 shows a comparison of the wholesale diesel fuel costs relative to the total cost of energy supply to the Goonyella System (distribution, transmission and retail). The figure shows comparable increases in diesel fuel costs with increases in the efficient cost of supplying electricity. This comparison is highly conservative as the diesel fuel costs represent the wholesale fuel cost of Singapore Gasoline (10 ppm) and benchmark fuel consumption rates for trains in the CQCN. Therefore, it excludes all other costs associated with the delivered price of diesel. Importantly, while this graph is useful for demonstrating relative fuel price changes, it is not representative of cost differentials between diesel and electric train services which takes into consideration a broader range of capital and operating input costs.

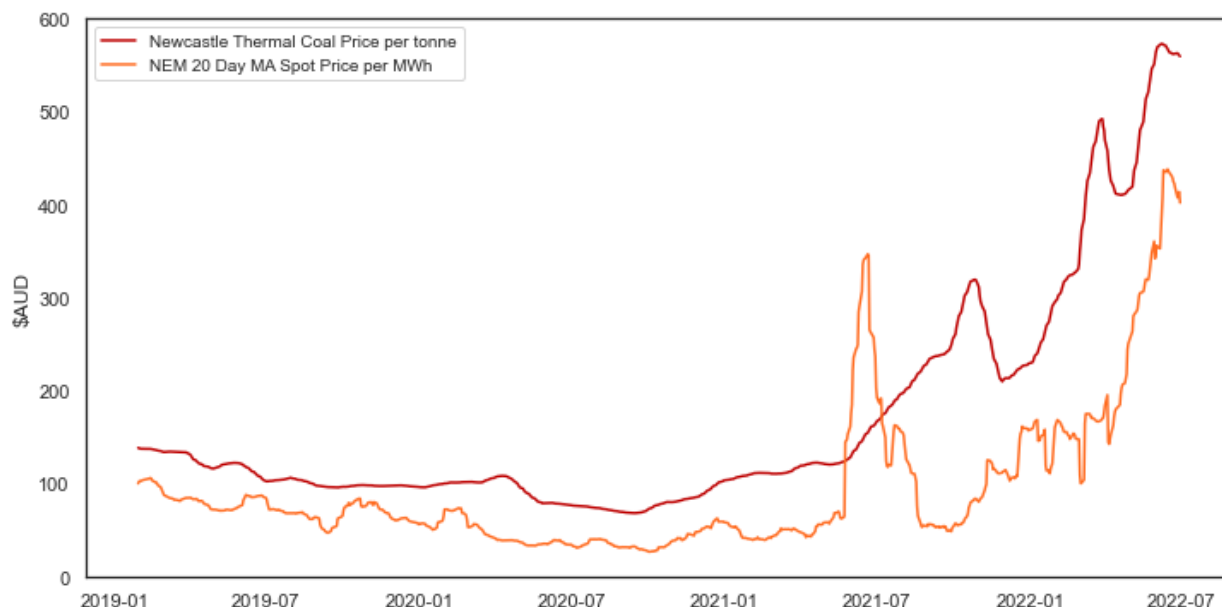
Figure 14 Comparison of Wholesale Diesel Fuel Costs to the Total Cost of Energy (Goonyella)



Sources: Bloomberg, Aurizon Network Analysis

Figure 15 also compares the 20-day moving average of daily average spot prices with the changes in benchmark thermal coal export prices. This is consistent with the observed correlation between earnings and global energy prices which are impacting the market prices for wholesale electricity in the NEM.

Figure 15 Comparison of Thermal Coal Prices with QLD NEM Spot Electricity Prices



Sources: Platts Coal Price series (2022), ASX Energy, Aurizon Network Analysis

In the circumstances, Aurizon Network submits that the QCA can be satisfied that the price obtained by Aurizon Network for the electricity charge was efficient, determined and procured from a competitive market from a third-party retailer and that it should be permitted to recover the cost in full as required by the pricing principles in section 168A(a) of the QCA Act. Aurizon Network also notes that neither of the terms prudent nor efficient implies that the costs in question should remain at any particular level, but that they reflect the prices procured through a process which relies upon market mechanisms, as has occurred through the ESA.

9. Expectations of changes in market conditions and purchasing decisions

The previous section discussed the extreme and unprecedented impacts on the wholesale electricity market and the confluence of factors and events contributing to them. The circumstances were not foreseen by electricity market participants, planners or regulators of the NEM. While the wholesale electricity market is expected to remain relatively volatile for a period, Aurizon Network observes that both governments and regulators are actively seeking to understand and adapt market and regulatory mechanisms to limit the future impacts of similar international and domestic events. For example:

- The ACCC's July 2022 Interim Gas Report¹¹ recommends the Resources Minister initiate the first step of the Australian Domestic Gas Security Mechanism to ensure security of domestic gas supplies; and
- Australia's Energy Ministers have commenced additional regulatory reforms to improve the AER's reporting and monitoring of the wholesale energy markets with the Minister's noting¹²:

Greater market transparency will be an important part of the long-term solution and a range of initiatives are in train across the energy sector to address this. Put simply, governments need

¹¹ Australian Competition and Consumer Commission (2022) Interim Gas Report, Media Release, July.

<https://www.accc.gov.au/media-release/lng-exporters-must-divert-gas-to-the-domestic-market-to-avoid-shortfalls>

¹² Australian Energy Ministers (2022) Amending the Australian Energy Regulator Wholesale Market Monitoring and Reporting Framework – Consultation Paper, August, p. 2. <https://www.energy.gov.au/government-priorities/energy-ministers/energy-ministers-publications/amending-australian-energy-regulator-wholesale-market-monitoring-and-reporting-framework-consultation-paper>

information to understand the drivers behind events like those over recent months, and to anticipate and avoid similar events from occurring again. Appropriate reforms will assist policy makers in managing the market, facilitate participants developing an open, competitive market and help end users by providing more stable and predictable energy pricing and the associated economic benefits.

This is in addition to other rule change proposals before the Australian Energy Market Commission and actions by the AER, which are summarised in Table 3.

Table 3 Summary of Regulatory Interventions and Actions

Date	Regulatory Body	Event
26 May 2022	AEMC	Consultation on amending the administered price cap to lift the level of the APC from \$300/MWh to \$600/MWh
10 June 2022	AER	Letter from AER Chair to retailers about their obligations and promotion of competition
14 June 2022	AER	Letter from AER Chair to market participants about compliance with National Electricity Rules (NER)
1 July 2022	AER	Compliance Bulletin and Checklist for Semi-Scheduled Generators Resilience test for retailers
23 June 2022	AER	AER expectations of Registered Participants following resumption of spot market operation
4 August 2022	AEMC	Draft rule asking generators for better availability information in MT PASA

Sources: AEMO –Quarterly Energy Dynamics Q2 Report (2022); AER –News releases (2022); AER –Publications (2022); AEMC –Media Releases (2022)

Due to these interventions and plans by generators to increase thermal plant capacity, forward prices have begun to soften. At the time of this submission, Aurizon Network [REDACTED] commenced investigating additional block purchases for contract prices out to Quarter 2 2023. During this period of high volatility in electricity prices, and while a portion of the future demand is being purchased on ‘spot’, Aurizon Network will look to provide (if able to so) relevant information to customers on the percentage of block/spot mix in comparison with the EC tariff within UT5.

Due to confidentiality limitations, Aurizon Network will not be able to share forecasts or buying recommendations from its expert energy advisor and will need to retain the ability to quickly act on purchasing advice (often same day).

Aurizon Network will continue to procure electricity diligently under the terms of the ESA, having regard to the advice of its expert energy advisor, with the objective of obtaining favourable outcomes for its customers going forward. Consistent with this objective, Aurizon Network reiterates its commitment to submit a further DAAU to the QCA for approval later in FY23 to ensure that any realised cost reductions within the period of FY23, including favourable downward movements in the spot market, are passed on to customers within this financial year.

As part of Aurizon’s overall Climate Strategy and Action Plan, the procurement of electrical energy for the CQCN is an important contributor to our delivery against that strategy. With the move towards including ‘green energy’ into the electricity mix, this required a new ESA which was executed at an unprecedented time, which was reflected in the prevailing market rates.

We acknowledge the importance of Aurizon Network's electrified Coal Systems and the contribution that it has into our customers climate strategies and enterprise targets. Because of this, Aurizon Network will continue to engage with our customers on further opportunities to achieve outcomes that assist in addressing the objectives of those climate strategies.

Should you have any questions or require further information, please do not hesitate to contact Jon Windle at jon.windle@aurizon.com.au

Sincerely,

Dan Kearney

Dan Kearney
Head of Finance and Regulation
Aurizon Network



Appendix 1 - Progressive Purchasing Under the Stanwell ESA (Confidential)

Appendix 2 – Material received from Edge2020 during FY22 (Confidential)

Appendix 3 Material Issues with CleanCo^ Draft ESA dated 15 February 2022 (Confidential)

Appendix 4 – QRC Rail Working Group Presentation – January 2022

Aurizon Network Energy Procurement

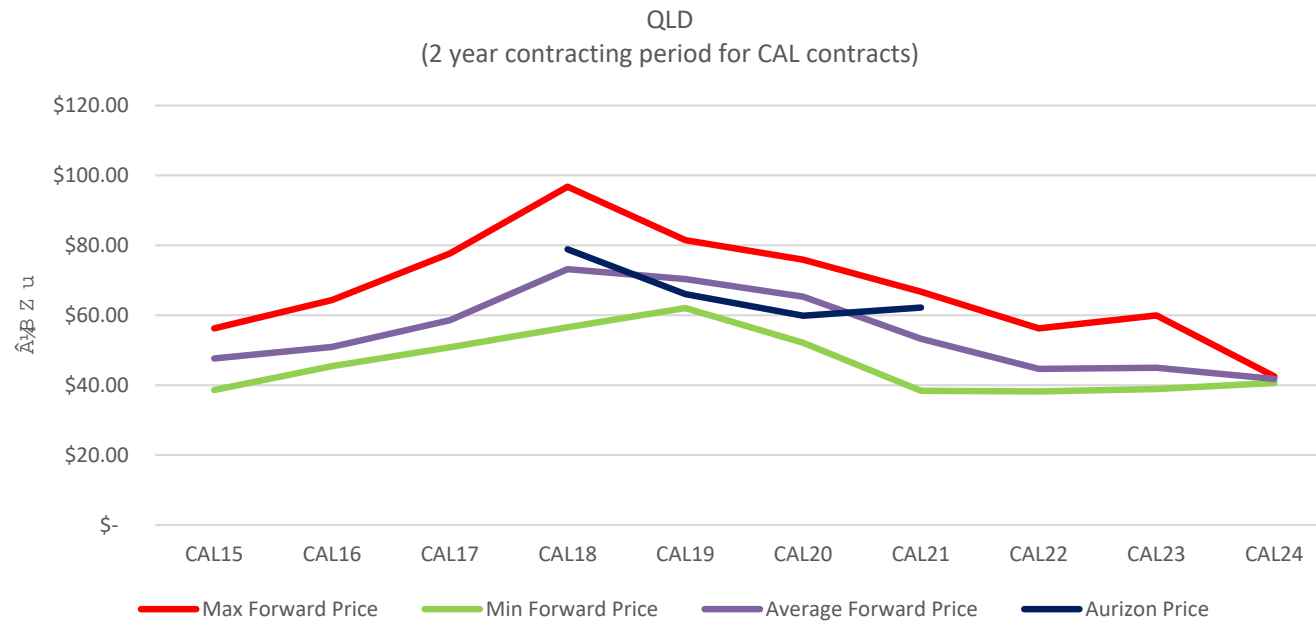
Customer Update January 2022



In FY18, Aurizon Network commenced progressively purchasing energy

Aurizon is one of QLD's largest individual energy consumers in QLD (~600 GWh pa) and in 2017 the QRC endorsed the move to a progressive energy procurement strategy which was implemented with Stanwell. The agreement with Stanwell expires in June 2022.

- Aurizon currently progressively purchase energy
- Quarterly energy blocks based on forecast load (~5MW blocks, with 14 blocks per quarter)
- Environmental certificates (STCs and LGCs), as required by government legislation
- All energy blocks have been purchased up to the end of the contract term.
- The past 4 years have demonstrated Aurizon's energy procurement has been close to the average forward price of the energy market.



With the current procurement agreement expiring in 2022, there is the opportunity to change the way we procure, to include renewables.

Early engagement with Customers indicated that the inclusion of renewables into the energy portfolio is a natural progression. Feedback indicated that many of our Customers were taking similar steps in their own organisations.

Progressive Purchasing

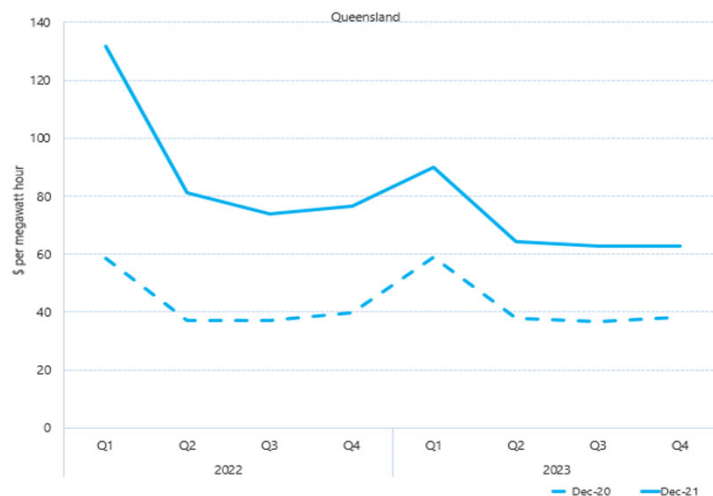


Renewables

- Aurizon Network's current progressive purchasing strategy seeks to provide the lowest cost by actively manage purchases using expert advice and market intelligence backed by risk management
- Progressive purchasing allows us to avoid potentially higher prices caused by moving markets, and the ability to take advantage of pricing variability in each quarterly market.

- In 2020, Aurizon released its Climate Strategy in Action Plan. This includes, targeting a 10% reduction in emissions intensity by 2030.
- Aurizon's electrified rail network provides a unique opportunity to green the supply chain, by including renewable energy into the portfolio.
- Traditionally, renewable energy has been seen as more expensive, and requires firming from the grid. This is quickly changing, with renewable energy prices becoming more competitive to traditional black energy.
- Incorporating renewables will have provide our customers with the opportunity to lower their scope 3 emissions.

AER Comparative Base Futures Pricing (13 Jan 22)



Over the past 6 months, Aurizon Network has undertaken a competitive procurement process

Market Sounding

- Initial discussions were had with prospective suppliers to discuss various product offerings, and seek early information on potential renewable options
- [REDACTED]

Request for Proposals

- An RFP was released to the market, seeking proposals for procurement of energy for the Aurizon portfolio, seeking a product to:

[REDACTED]

- Aurizon received a response from 9 retailers with many different products being offered, including renewable options

Shortlisting

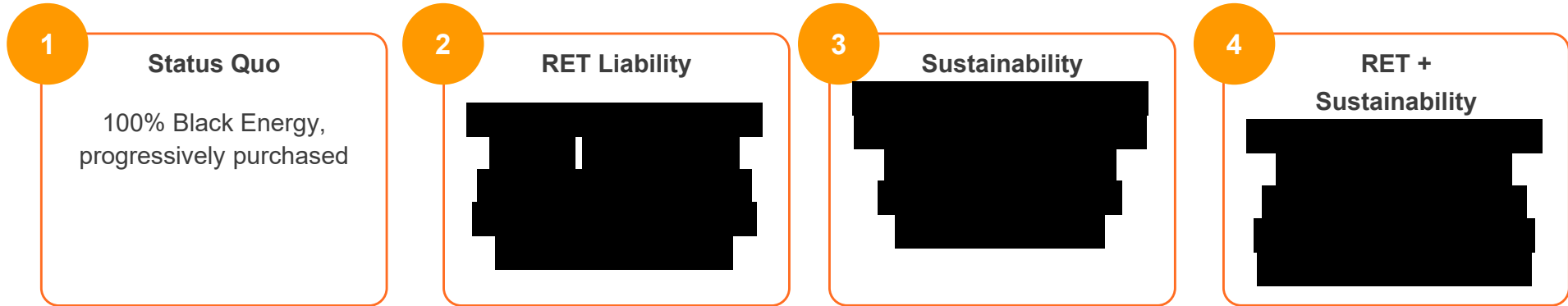
- Using a criteria, each of the offerings were assessed and ranked.
- [REDACTED] retailers were invited for further discussions, and to provide a best and final offering.

Criteria	Weighting
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

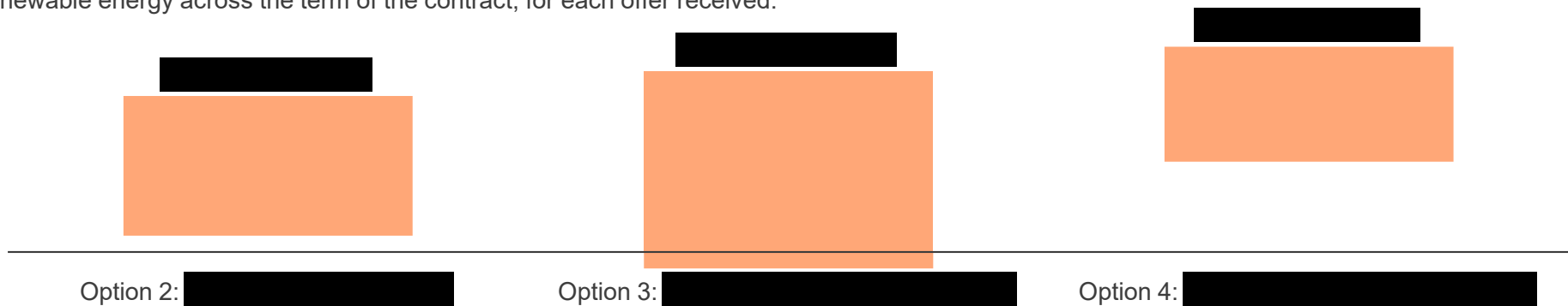
Through Best and Final Offerings, each of the shortlisted retailers has firmed their pricing, terms, and product offerings

Best and Final Offerings

- [REDACTED], Aurizon Network narrowed down and sought best and final pricing on 4 product types:



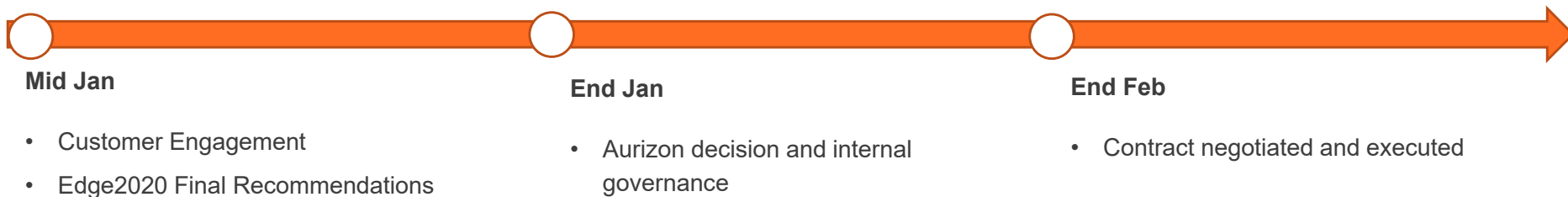
- Each offer includes the flexibility to progressively procure Aurizon’s remaining energy requirements.
- Each includes flexibility to progressively procure environmental certificates to meet Aurizon’s RET liability and increasing renewable energy requirement over time.
- A pricing comparison against the black energy prices has been undertaken. The following chart indicates the range of the premium for procuring renewable energy across the term of the contract, for each offer received.

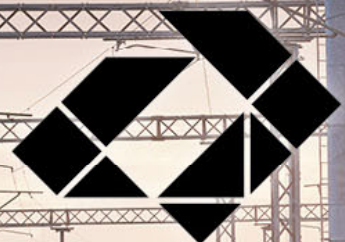


Recommendation and Next Steps

- Aurizon Network is seeking Customers to support the approach to include renewables within the Energy portfolio, with the remainder of the portfolio continuing to be progressively purchased.
- Including renewables will require a [REDACTED]. Aurizon is seeking to amend the [REDACTED].
- Aurizon is recommending to proceed with a bundled offer, incorporating a 25% block of renewable energy. The remaining portfolio will continue to be purchased progressively under the existing risk management framework.
- Securing a 25% portion of renewable energy will enable Aurizon Network to meet its RET liabilities, and also enable Operators to reduce Scope 1 and 2 emissions, and for Customers to reduce Scope 3 emissions. It also provides room should RET liabilities change.
- Aurizon is currently considering the final offers for a 25% block [REDACTED] [REDACTED], will be seeking to make a decision within the coming month on which offer to accept. Options exist for both linked and unlinked renewable energy blocks, including access to immediate projects, or upcoming projects requiring upfront commitment to future pricing.
- All options provides the opportunity to increase renewables across the portfolio over the term of the agreement, and to progressively purchase the remaining load.

Upcoming Milestone Dates





AURIZON®

