



ASX Australian Peak Load Electricity Futures Contract Changes

Consultation Paper

7 February 2024



Invitation to comment

ASX is seeking submissions in response to this consultation paper by 22 March 2024.

Submissions should be sent to:
E commodities@asx.com.au

Office of General Counsel
ASX Limited
20 Bridge Street
Sydney NSW 2000

ASX prefers to receive submissions in electronic form.

If you would like your submission, or any part of it, to be treated as confidential, please indicate this clearly in your submission. ASX reserves the right to publish the nonconfidential submissions it receives and consider publishing those submissions in whole or on a summary basis. Where a submission, or part thereof, is marked confidential ASX will consider publishing the content on a summarised and anonymous basis. Where ASX is required by a regulator or otherwise required by law to produce a submission it has received, ASX will use its best endeavours to advise the submitter ahead of the production of the submission.

ASX is available to meet with interested parties for bilateral discussions.

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ASX Australian Peak Load Electricity Futures Contract

Purpose of this Paper

The increase in renewable energy, particularly solar-led generation, has resulted in a material change to the energy generation mix and demand profile in the Australian National Electricity Market (NEM). ASX's Peak Load Electricity Futures Contract (Peak Load Futures Contract) is designed to provide Market Participants with a mechanism to hedge their exposure to daily price peaks that occur when electricity demand is at its highest. The changing energy profile of the NEM has impacted the effectiveness and usefulness of ASX's Peak Load Futures Contract as a hedging tool.

ASX has received requests from a number of Market Participants to redesign the Peak Load contract specification to better reflect the changing energy generation landscape and make the contract fit for purpose.

This consultation paper outlines a number of potential changes to the contract specifications of the Peak Load Futures Contract and proposal for implementation, all of which are subject to internal and regulatory approval.

ASX invites submissions from Market Participants on the proposed changes set out in this paper and any alternative approaches that market users may wish to raise for consideration. In addition, this paper requests feedback on any consequences of changing the existing contract specification beyond the suitability of the product as a hedging tool. Please provide written feedback by 22 March 2024.

ASX kindly requests that only one submission be made per organisation. If you or your organisation would like to discuss this topic further, please contact ASX (details on page 2).

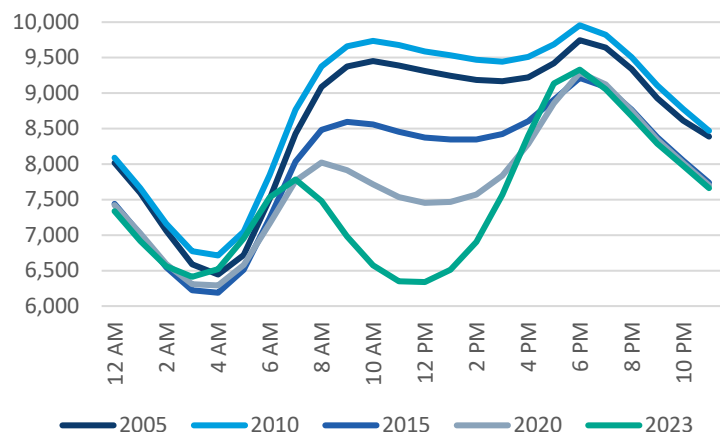
Background

Australian Electricity derivatives were first listed for trading on the ASX 24 market in September 2002 as a tool for Market Participants to hedge price exposure to the underlying NEM. At the time of listing, the Peak Load Futures were designed to provide coverage for periods of higher electricity demand and assist Market Participants in hedging price volatility during this period. Peak operational demand in the NEM typically occurred between the hours of 7am and 10pm on business days (Monday – Friday). Since then, the installation and use of rooftop solar in homes and businesses across Australia has increased significantly, resulting in a change to the NEM operational demand profile and periods of peak demand. This has impacted volume and Open Interest in the ASX Peak Load Futures Contract as the ability to hedge peak demand using the existing contract has declined due to the changing energy generation mix.

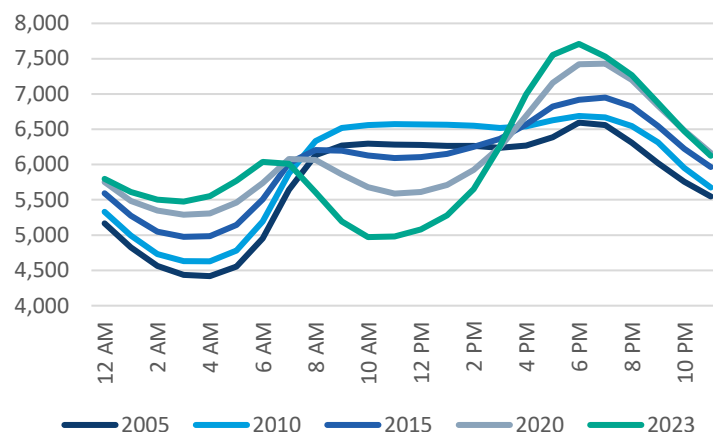
The change in operational demand profile by NEM region is illustrated in the below graphs showing average electricity demand throughout the day across a number of years¹ (2005, 2010, 2015, 2020, 2023). The dip in operational demand during the middle of the day is evident and has become increasingly pronounced over the years, largely driven by the increased use of solar energy generation. The average demand profile suggests that the peak periods now occur during the morning and evening only with solar generation supplying a significant amount of demand throughout the middle of the day, resulting in reduced demand for electricity from the NEM.

¹ Australian Energy Market Operator data.

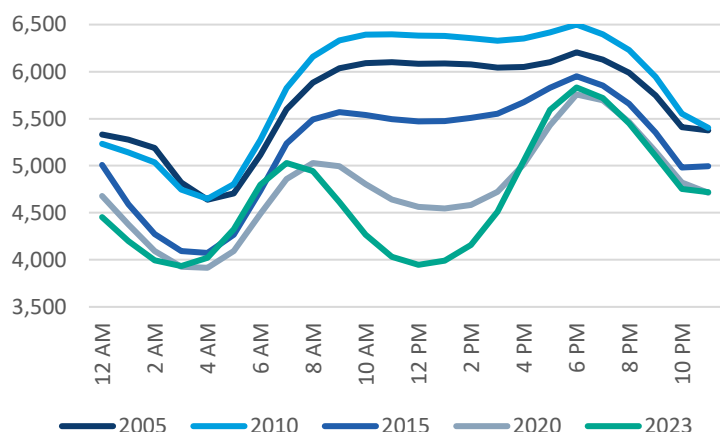
NSW Operational Demand (MW)



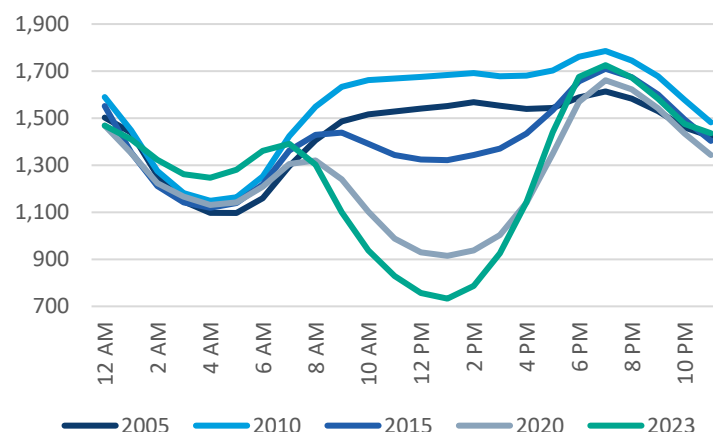
QLD Operational Demand (MW)



VIC Operational Demand (MW)



SA Operational Demand (MW)



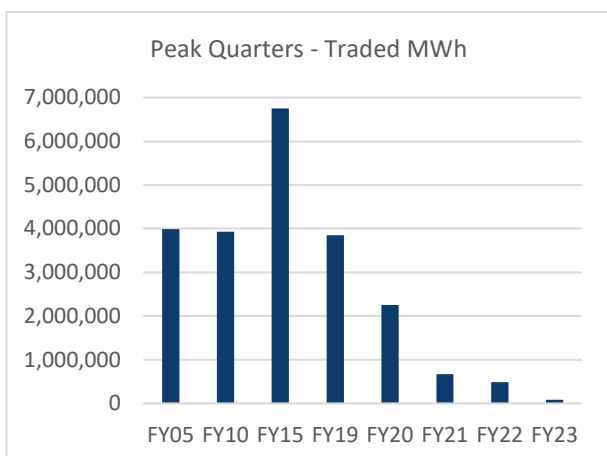
Contract Specifications

The Peak Load Futures were designed to cover higher periods of demand in the underlying regions of the NEM. The relevant specifications of the product are:

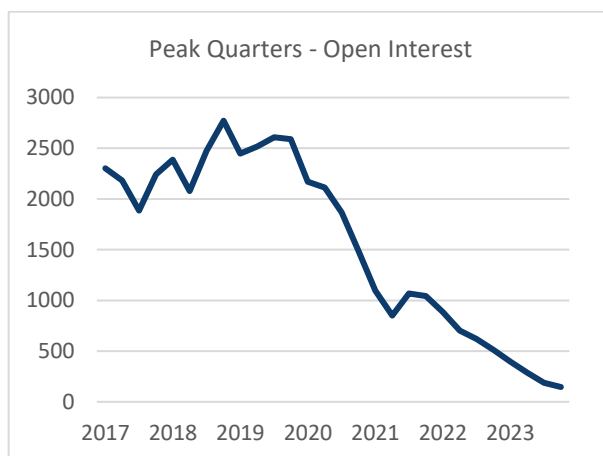
- **Underlying Commodity:** Electrical energy bought and sold in the New South Wales, Victoria, South Australia, or Queensland wholesale electricity pool markets conducted by the Australian Energy Market Operator (AEMO).
- **Contract Unit:** 1 Megawatt of electrical energy per hour based on a peak load profile. The peak load profile is currently defined in item 2 ('Reference Price') of rule 2.62 in the ASX 24 Operating Rules Schedule as the period from 07:00am to 10:00pm Monday to Friday (excluding public holidays and any other days determined by ASX) over the duration of the Contract Quarter.
- The **settlement price** for this contract is the sum of the relevant peak load spot prices for the region, divided by the total number of relevant peak load spot prices for the region. i.e. average price per MWh over the peak load profile for the relevant quarter.

Performance of the Peak Load Futures Contract

The performance of the Peak Load Futures Contract has declined over time with the market reporting a reduction in the usefulness of the contract as a hedging tool. As a result, traded volume and Open Interest in the contract has declined significantly in the last few years. As of 31 January 2024, total Open Interest across the Peak Load Futures Contract was 60 lots, split between NSW and VIC with no Open Interest in QLD or SA (see Appendix A for a breakdown of Open Interest).



Use of the Peak Load Futures Contract has significantly declined, as shown above by the traded volume of the contract.



Open Interest in the contract has steeply declined over the last few years.

The Settlement Price differential between the Peak Load and Base Load Quarterly Futures has consistently contracted over the last two years, impacting the ability of the Peak Contract to effectively hedge price risk in the underlying market. Theoretically, the Peak Load Contract should trade at a premium price to the Base Contract, however there have been times where the Settlement Price of the Peak Contract has dipped below the Settlement Price of the related Base Load Contract. This occurred for the first time in Q4 2022 in NSW, VIC and SA and has since occurred again in Q1 2023 in VIC and Q3 2023 in QLD (see Appendix B for historical settlement prices of the Base Load and Peak Load Quarterly Futures).

Proposals for Market Consultation

Change to Contract Specification

The purpose of the consultation is to obtain input from Market Participants on how to adapt the Peak Load Futures Contract to best meet the changing needs of Market Participants. ASX has engaged with Market Participants and previously conducted a market survey to request feedback on a range of peak load profiles including peak, super peak, solar shape, inverse solar shape and 4-hour blocks. The result of this was a strong preference toward a contract with the following characteristics:

- An evening peak or super peak profile
- Standardised across all regions
- 7 Day contract, rather than a 5 Day contract
- No shaping – i.e. a flat 1 MWh per each hour covered under the load profile

Based on the feedback collected, ASX is proposing the contract specifications of the existing Australian Peak Load Futures Contract be updated to reflect one of the two load profile options presented below, subject to regulatory approval.

Proposal	Change the definition of the peak load profile
Rationale	<p>ASX currently defines the “peak load profile” of the Australian Peak Load Electricity Futures Contract in item 2 (‘Reference Price’) of rule 2.62 in the ASX 24 Operating Rules Schedule as the periods for the invoicing of physical deliveries of electricity between <i>7am and 10pm inclusive, Monday to Friday</i> – Australian Eastern Standard Time (AEST), excluding public holidays and any other days determined by ASX².</p> <p>Given the background information above, ASX believes that a change to the definition of the peak load profile, which underpins the contract specification of the Peak Load Futures Contract, is appropriate.</p> <p>ASX proposes changing the definition of the peak load profile to one of the following two profiles:</p> <ul style="list-style-type: none"> • Option 1 (Evening Period), or • Option 2 (Morning + Evening Period) <p>The calculation of the Peak Load Settlement Price is the arithmetic mean of the underlying price per MWh of the five-minute peak load spot price for the region. ASX is exclusively proposing a change to the definition of the peak load profile and is not proposing any change to the calculation of the settlement price methodology, i.e. no shaping.</p> <p>Please refer to Appendix C for Settlement Prices in the regions of NSW, QLD, VIC and SA for the quarters Q1 2021 to Q4 2023 covering the following actual and example profiles:</p> <ul style="list-style-type: none"> • [Actual] Historical Settlement Price of the <i>Base Load Quarterly</i> Futures • [Actual] Historical Settlement Price of the <i>Peak Load Quarterly</i> Futures (under the current definition, as above) • [Calculated] Settlement prices of proposed Option 1 and Option 2 Peak Load Quarterly contracts (as defined below)

² As per ASX 24 Operating Rules Schedule 2.62.

Option 1 (Evening Period)

ASX proposes the definition of peak load profile to be updated to as follows:

*“the periods for the invoicing of physical deliveries of electricity between **4pm and 8pm** inclusive, Monday to Sunday – Australian Eastern Standard Time (AEST)”*

Potential benefits of Option 1:

- The profile covers the peak operational demand period in the evening period, when operational demand and prices in the NEM are typically the highest
- Profile suited to support both the hedging requirements of:
 - Generators of battery projects and other peaking generation methods that support the addition of renewable generation in the NEM
 - Retailers who are exposed to evening peak pricing in the underlying wholesale market
- If this product is valued over 7 days (as proposed) it would be consistent with the Base Load Calendar Quarter Futures Contract, which may encourage trading between the two contracts

Potential risks of Option 1:

- Hours are too short for effective hedging as there is only 4 hours of coverage per day
- Does not provide any hedging coverage on the morning operational demand peak period

Option 2 (Morning + Evening Period)

ASX proposes the definition of peak load profile to be updated to as follows:

*“the periods for the invoicing of physical deliveries of electricity between **6am and 9am**, and, **4pm and 8pm** inclusive, Monday to Sunday – Australian Eastern Standard Time (AEST)”*

Potential benefits of Option 2:

- The profile covers the peak operational demand period in both the morning and evening period
- If this product is valued over 7 days (as proposed) it would be consistent with the Base Load Calendar Quarter Futures contract, which may encourage trading between the two contracts

Potential risks of Option 2:

- The morning operational demand peak is smaller than the evening operational demand peak and the average (settlement) price per MWh across the morning + evening period is generally lower than the evening only period (please see Appendix C for settlement prices under both Option 1 and Option 2)
- The need for hedging required over this profile may be slightly lower than the option 1 and therefore the product may not become as liquid

Questions

- Which peak load profile (Option 1 or Option 2) is your preferred option and why?

- Do you agree with the proposed contract specification for your preferred profile as presented?
 - Are there any other contract specification changes that would make the product more desirable for trading and as a hedging tool?
- Do you foresee the peak demand profile changing again in response to generation and storage developments (e.g. battery storage) or other factors such as electric vehicles etc.? If so, when would you expect this to materially change the proposed peak demand profile?

Implementation of Change

Proposal	Change the definition of the peak load profile within the existing product specification						
Rationale	<p>In principle, ASX prefers not to make changes to the contract specification for contracts that have Open Interest, where the change may affect the fair or forward value of the contracts already entered into. Where there is no Open Interest, ASX may amend the underlying asset of the existing Futures Contract. ASX will however, at all times, ensure that such changes are implemented in a manner that complies with our statutory obligation to provide, to the extent reasonably practicable, a fair, orderly and transparent market³.</p> <p>As of 31 January 2024, Open Interest in the Australian Peak Load Electricity Futures Contract extended out until Q4 2024 in VIC and Q4 2026 in NSW. There was no Open Interest in both QLD and SA. The volume of Open Interest in VIC and NSW is small, totalling 60 lots.</p> <p>The relevant contract specifications of the product that remain the same under the proposed contract specification options are:</p> <ul style="list-style-type: none"> • Underlying Commodity: Electrical energy bought and sold in the New South Wales, Victoria, South Australia or Queensland wholesale electricity pool markets conducted by AEMO. • Contract Unit: 1 Megawatt of electrical energy per hour based on a peak load profile. • The settlement price for this contract is the sum of the relevant peak load spot prices for the region, divided by the total number of relevant peak load spot prices for the region. i.e. the arithmetic mean of the price per MWh over the peak load profile for the relevant quarter. <p>The change of the definition of the peak load profile will affect the number of days and the contract size (MWh) of the peak load contract. Example sizes of contracts are outlined below:</p>						
	Contract Quarter	Current Peak Load Profile		Option 1 (Evening)		Option 2 (Morning + Evening)	
		Number of Days	Contract Size (MWh)	Number of Days	Contract Size (MWh)	Number of Days	Contract Size (MWh)
	Q1 2024	62 / 61 NSW, QLD / VIC, SA	930 / 915	91	364	91	637
	Q2 2024	62 All Regions	930	91	364	91	637

³ Refer section 792A(a) of the Corporations Act 2001 (Cth).

Q3 2024	66 / 65 NSW, SA / VIC, QLD	990 / 975	92	368	92	644
Q4 2024	63 All Regions	945	92	368	92	644

Given the limited Open Interest in the contract, ASX would prefer to change the contract specification of the existing Peak Load Contracts (Quarters: PN, PV, PQ, PS and Strips: DN, DV, DQ, DS).

By retaining the existing commodity codes and changing the underlying product specification (definition of peak load profile), the time to market will be faster than listing a new contract. However, to achieve this, there would need to be zero Open Interest across all Peak Load Contracts.

ASX proposes that once there is zero Open Interest across all Peak Load Contracts, the Peak Load commodity codes would be temporarily made unavailable for trading on ASX 24 whilst the changes to the underlying product specifications are updated. Once all required changes are made and tested, the contract will be made active again pending internal and regulatory approvals, effectively re-listing the contract with the new underlying product specification.

In order to facilitate this, ASX would give end users adequate opportunity to manage and trade out of any open positions. If by a certain date Open Interest remains in the contract, all remaining open positions would be cash-settled at the Daily Settlement Price in order to make the required changes to the contract.

Questions

- What is the minimum notice period you require to manage open positions?
- Can you foresee any potential consequences of updating the product specification of the existing contracts, i.e. keeping the same commodity codes? If so, please provide details of the consequences in your response.

Other Considerations

ASX is aware that the Australian Peak Load Electricity Futures Contract may be used by the market for purposes other than as a trading and hedging tool, and that existing Peak Load Futures Contract is a suitable MLO product under the Retailer Reliability Obligation (RRO), which commenced in July 2019 to support reliability in the NEM.

Questions

- Do you foresee any unintended consequences as a result of any of the proposed changes?
- Is there anything else that you would like to raise for consideration?

Invitation to Respond

ASX invites submissions from Market Participants on the proposals set out in this paper and any alternative approaches that respondents may wish to raise for consideration.

ASX is seeking feedback on the proposed changes to the ASX Peak Load Futures Contract and any associated issues or concerns that participants may have around these changes. ASX requests a single response per organisation. Please provide written feedback by 22 March 2024.

If you or your organisation would like to discuss this topic further, please contact ASX (contact details on page 2).

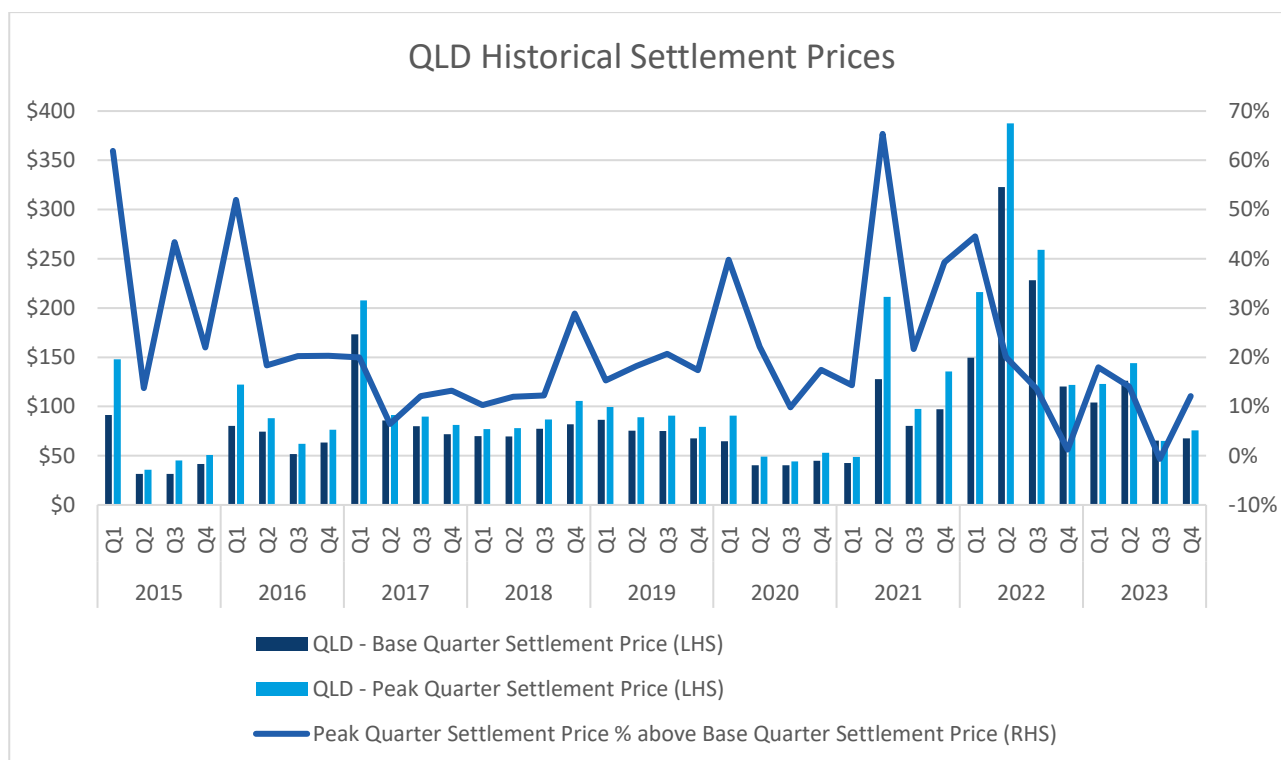
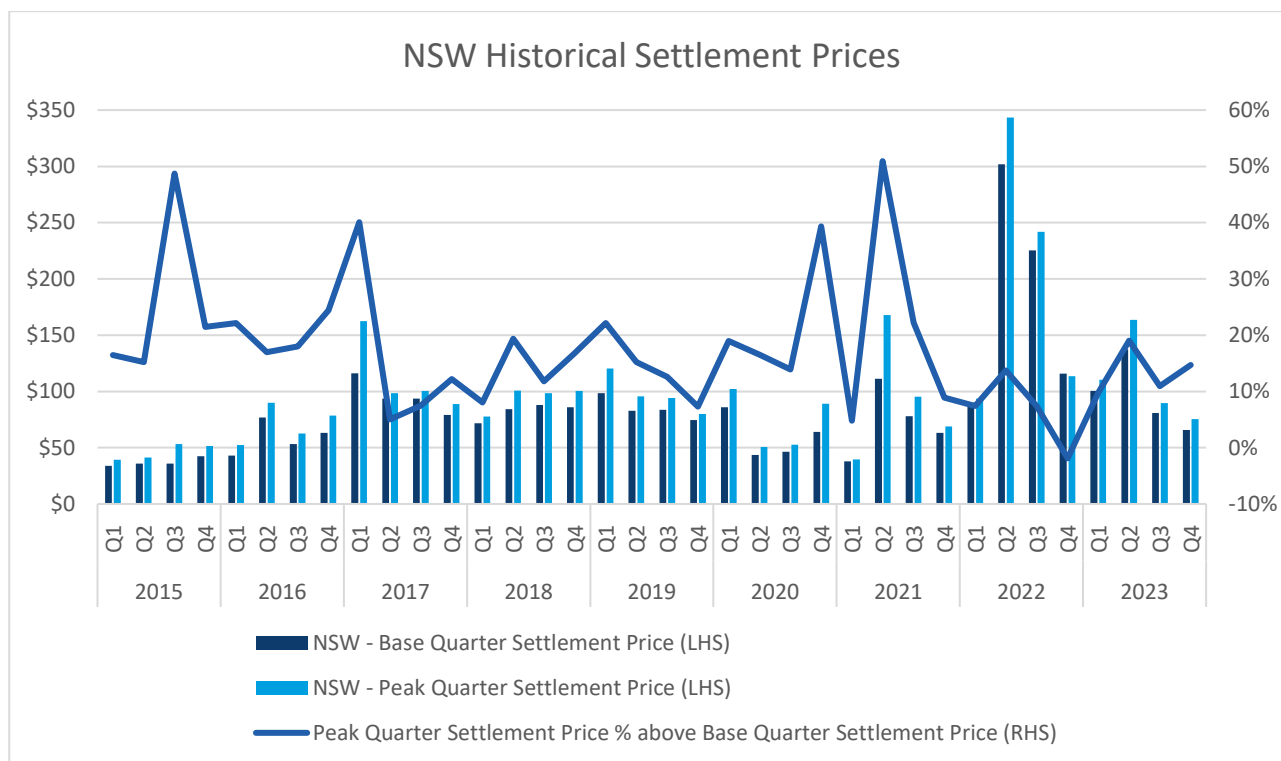
Appendix

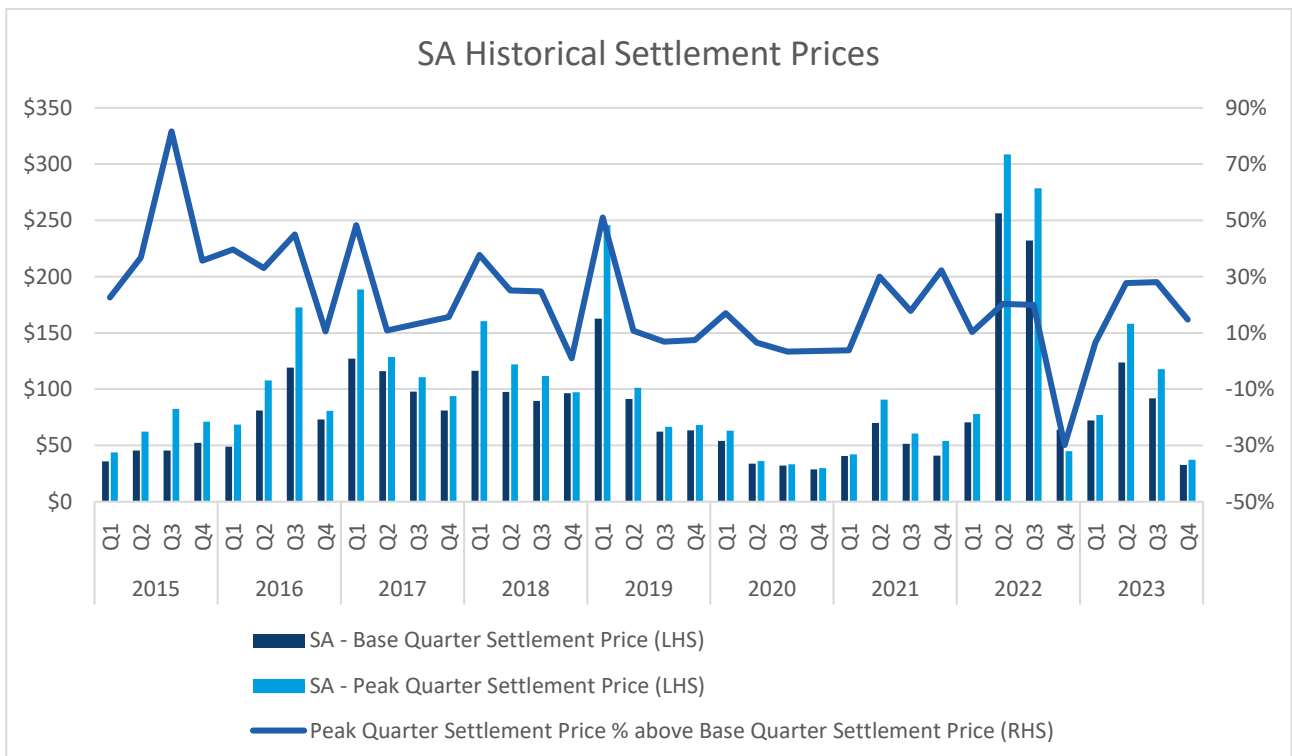
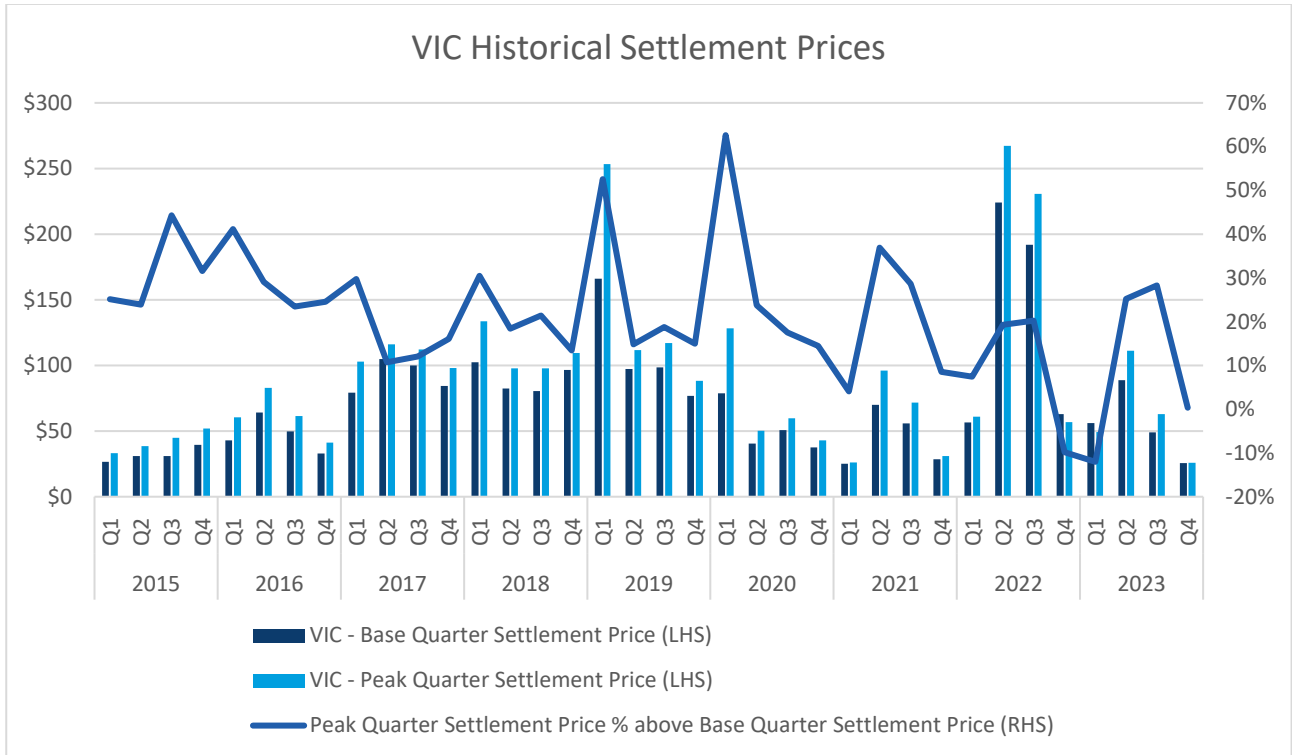
Appendix A: Open Interest in the Peak Load Futures Contract

Open Interest in the Peak Load Futures Contract at 31 January 2024 is shown below.

Peak Quarter	NSW	VIC	QLD	SA
Q1 2024	6	0	0	0
Q2 2024	6	0	0	0
Q3 2024	9	0	0	0
Q4 2024	6	1	0	0
Q1 2025	6	0	0	0
Q2 2025	6	0	0	0
Q3 2025	6	0	0	0
Q4 2025	6	0	0	0
Q1 2026	2	0	0	0
Q2 2026	2	0	0	0
Q3 2026	2	0	0	0
Q4 2026	2	0	0	0
Q1 2027	0	0	0	0
Q2 2027	0	0	0	0
Q3 2027	0	0	0	0
Q4 2027	0	0	0	0
Total Open Interest	59	1	0	0

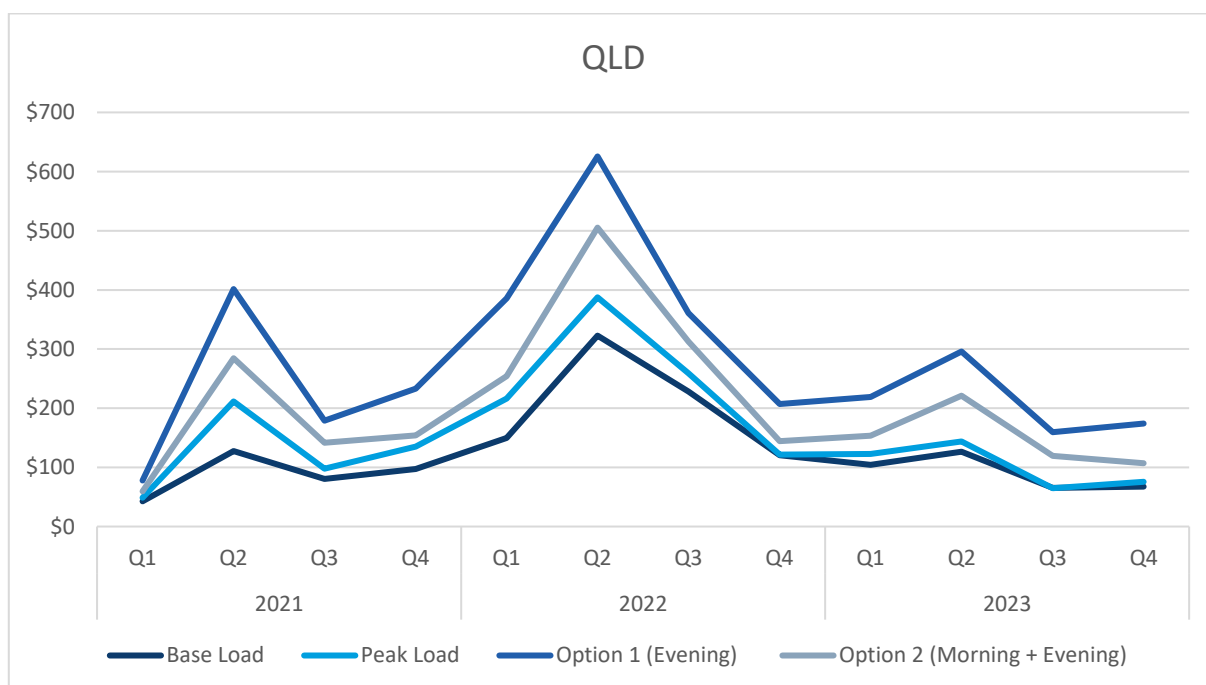
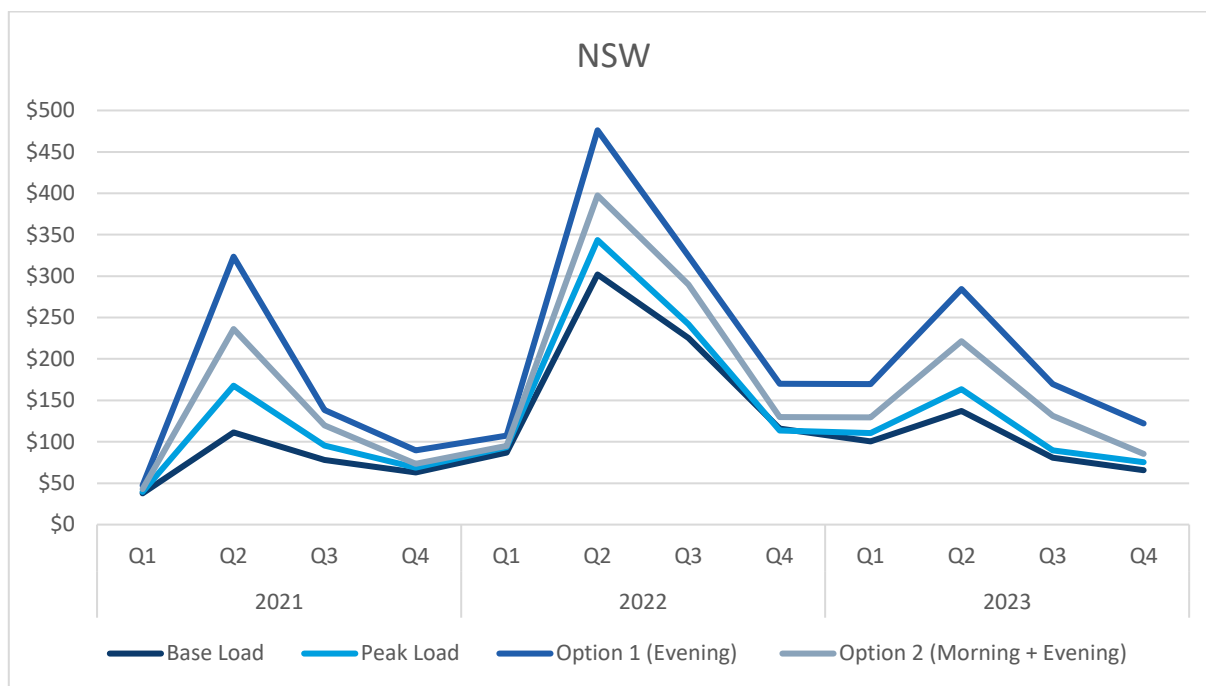
Appendix B: Historical Settlement Prices of Base Load Quarterly and Peak Load Quarterly Futures by NEM region





Appendix C: Settlement Prices (average price per MWh) of various load profiles by NEM by region

Below are the historical settlement prices by region for each quarter for 2021 – 2023 for the current Base Load Quarterly and Peak Load Quarterly contracts⁴, as well as what the settlement prices would have been⁵ under both proposed options for the same period.



⁴ As determined by AEMO.

⁵ Calculated by ASX.

