



# Electricity Market Conventions

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## Preface: AFMA Code of Conduct

AFMA promotes efficiency, integrity and professionalism in Australia's financial markets. The AFMA Code of Conduct (the Code) clearly articulates the ethical principles for minimum acceptable standards of behaviour and supports responsible decision making by firms and individuals engaged in financial markets activities.

All AFMA Financial Markets Members and Partner Members<sup>1</sup> are expected to observe the Code and operate with integrity, professionalism and competence. The Code is designed to support behaviors that put the interests of clients, the firm and the wider community ahead of personal or individual interests, and promotes confident participation by users in Australia's OTC markets.

The Code is presented in two parts – the [Ethical Principles](#) and the [Guidelines](#).

Market participants are reminded that they are generally expected to observe and adhere to the market standards and conventions as set out below when engaging in any form of market dealing.

### 1. Description

The electricity OTC market covers all derivative transactions involving the electricity pool price as the underlying exposure, and are negotiated bilaterally between counterparties through a broker or directly by telephone, email or any other process as may be agreed.

The market operates in AEDT and is cash settled.

### 2. Products

The OTC electricity market does not give rise to the physical delivery of electricity.

#### 2.1. Electricity Swap

An electricity swap is an agreement between two parties to exchange the difference between a fixed price per megawatt hour (MWh) of electric energy and a variable price that is referenced to the pool price, as determined by the market operator, in a stated reference node.

#### 2.2. Options – Caps and Floors

##### 2.2.1. Cap

A cap is a series of options that place a ceiling on the price the buyer pays for electricity. The seller will compensate the buyer, on prescribed reference dates, to the extent the pool price is greater than the strike price.

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<sup>1</sup> As defined in the AFMA Constitution

### **2.2.2. Floor**

A floor is a series of options that protect the buyer from a fall in pool prices below a specified level. The seller will compensate the buyer, on prescribed reference dates, to the extent the pool price is less than the strike price.

## **2.3. Swaption**

A swaption is an option to enter into a swap on a future date and at a predetermined fixed price.

### **2.3.1. Call Swaption**

The buyer of a call swaption has the right, but not the obligation, to buy a swap on a future date at a predetermined fixed price. The fixed price of the swap is the strike price of the swaption.

### **2.3.2. Put Swaption**

The buyer of a put swaption has the right, but not the obligation, to sell a swap on a future date at a predetermined fixed price. The fixed price of the swap is the strike price of the swaption.

## **2.4. Average Price (Asian) Calls and Puts**

### **2.4.1. Asian Call**

An Asian call is a derivative with a payout calculated with reference to a specified averaging period that places a ceiling on the price the buyer pays for electricity. The seller will compensate the buyer, on prescribed reference dates, to the extent the unweighted arithmetic mean of the reference pool price during the specified averaging period exceeds the strike price.

The averaging period is agreed in advance by both parties based on Eastern Standard Time.

### **2.4.2. Asian Put**

An Asian put is a derivative with a payout calculated with reference to a specified averaging period that protects the buyer from a fall in pool prices below a specified level. The seller will compensate the buyer, on prescribed reference dates, to the extent the unweighted arithmetic mean of the reference pool price during the specified averaging period is less than the strike price.

The specified averaging period is agreed in advance by both parties based on Eastern Standard Time.

## 2.5. Collar

A collar is a combination of any of the following, where one is sold and the other purchased:

- A cap and a floor
- An Asian call and an Asian put
- A call swaption and a put swaption

A party is buying a collar if they are the buyer of the call/cap and the seller of the put/floor.

The premium payment dates are made in line with premium payment date conventions as per [Section 3.11](#). The expiry convention of the swaption collar is in line with the option expiry conventions as per [Section 3.12](#). All collars will be exercised in accordance with [Section 3.16](#).

## 2.6. Captions

### 2.6.1. Call Caption

A call caption gives the buyer the right but not the obligation to buy a cap with a predetermined strike and premium at a future point in time.

The buyer pays an upfront premium for the option over the cap and a subsequent premium if the buyer exercises that option to enter into the cap transaction.

### 2.6.2. Put Caption

A put caption gives the buyer the right but not the obligation to sell a cap with a predetermined strike and premium at a future point in time.

The buyer pays an upfront premium for the option over the cap and subsequently receives a premium if the buyer exercises that option to sell the cap.

The premium payment dates are made in line with premium payment date conventions as per [Section 3.11](#). The expiry convention of the option over the cap is in line with the option expiry conventions as per [Section 3.12](#).

## 2.7. Secondary SRAs

A secondary SRA is an agreement between two parties to exchange the difference between a fixed price and a floating price per unit of directional interconnector. The floating price is referenced to the inter regional settlements residue as calculated by Australian Energy Market Operator (AEMO) in accordance with clause 4.1(c)(i) of the Auction Rules, dated 7 November 2014, which are published on the [AEMO website](#).

## **3. Dealing**

### **3.1. Methods of Dealing**

Through a broker or directly by telephone, online trading platforms, email or any other process as may be agreed.

### **3.2. Electronic Dealing**

At the discretion of the parties.

### **3.3. Business Days**

As the parties require, normally 8:00am to 5:00pm.

Business day means a day on which the banks are open in the capital city of the state in which the regional reference node is located.

Counterparties may negotiate variations to this convention on a bilateral basis at the time of dealing.

### **3.4. Standard Transaction Size (market parcel)**

The standard transaction size for all OTC electricity derivatives will be 5 MW unless otherwise specified when the order is placed or as subsequently varied.

### **3.5. Two Way Pricing**

This is where a counterparty quotes simultaneous bid and offer prices for a product.

Counterparties are not obliged to quote two way prices and may choose only to quote either a bid or an offer.

### **3.6. Quotation Conventions**

#### **3.6.1. General Conventions**

Electricity units are traded with reference to the instantaneous power in megawatts (MW).

Electricity prices are quoted as a price per unit of electrical energy, being dollars per megawatt hour (\$/MWh).

The trading day for electricity contracts begins at 0000 and ends at 2400 and is always based on Eastern Standard Time. This should not be confused with the physical market conventions.

The following terms can be used when quoting:

- *NEM Peak* - Period starting 0700 to period ending 2200 on all Mondays to Fridays when the major trading banks are open for business in the state capital. Note that the NSW Bank Holiday in August and Easter Tuesday in Tasmania will each be designated a peak day.
- *NEM Off Peak* - Any period other than NEM peak.
- *Flat Load* - Covers NEM peak and NEM off peak periods.

The following locations represent each regional reference node:

- New South Wales - Sydney West 330kV node
- Victoria - Thomastown 66KV node
- South Australia - Torrens Island Power Station 66kV node
- Queensland - South Pine 275KV node
- Tasmania - George Town 220KV node

NEM peak, NEM off peak and flat load implies that the same capacity of MW applies to each Calculation Period in the period.

### **3.6.2. Option Conventions**

Premiums will be quoted in a \$/MWh format.

### **3.7. Other Instrument Conventions**

Not applicable.

### **3.8. Basis**

Not applicable.

### **3.9. Maturity Conventions**

Not applicable.

### **3.10. Settlement Rate or Index**

Not applicable.

### **3.11. Premium Payment Date(s)**

Premiums will be payable on the next NEM settlement date after either the trade date of a transaction or exercise date of a caption (as applicable), unless that date is within two local business days of the next NEM settlement date, in which case the payment may be made on the subsequent NEM settlement date.

### **3.12. Options Expiry Conventions**

Option expiry time, except for Asian options, will be up to 3pm AEDT. The date of expiry for swaptions and captions will be six weeks prior to the calendar day before the commencement of the period covered by the underlying swap. If this day is not a business day in any one of the NEM regions the expiry date will be the following business day.

Counterparties should confirm the precise date for the options expiration at the time of dealing.

The standard exercise practice is 'all or nothing' and partial exercise should be negotiated bilaterally on a deal by deal basis between the parties.

### **3.13. Dealer and Broker Conventions**

#### **3.13.1. Firmness**

Dealers and brokers must clearly indicate whether prices being quoted are firm or indicative. A price quoted is firm unless otherwise stated in an unambiguous manner.

A price given to a broker by a counterparty remains firm even if the dealer who has placed the order is unavailable and/or away from their desk.

If a dealer provides a firm order with a broker, and is hit on that order, the dealer must deal at the level specified for a transaction size in line with *Section 3.4* of these conventions. It is not necessary for the broker to communicate to the counterparty that the live price has been hit in order for the deal to be completed. Prices displayed on broker screens must be firm unless clearly indicated otherwise.

A transaction is entered into at the time that the terms of the transaction are agreed between the dealers (whether orally or otherwise). This occurs when a dealer communicates to another dealer its acceptance of an offer that the other dealer has made.

Offers to enter into a transaction communicated by a broker on behalf of a dealer must be firm offers (unless unambiguously expressed otherwise) which can be accepted until they are withdrawn by the broker at the offering dealer's request. A broker must communicate offers only in the exact terms instructed by the offering dealer and must not vary any offer which a dealer requests be communicated by the broker. An offer communicated by a broker may be accepted by another dealer communicating acceptance to the broker (which is received by the broker on behalf of the offering dealer). The transaction is agreed, and the dealers are bound

to its terms, from the time that the acceptance of the offer is communicated to the broker, whether or not acceptance has been communicated to the offering dealer.

If the terms of a transaction accepted by a dealer differ from the terms which the offering dealer made, and instructed the broker to communicate, then the offer made by the offering dealer has not been accepted and no transaction is entered into. This applies whether or not the difference was caused by an error of the broker. A broker is authorised only to communicate the offers made by a dealer and receive acceptance of them on behalf of the dealer. A broker is not authorised to vary any offer made by a dealer or to negotiate its terms and an offering dealer is not responsible for any error of the broker or anything done by the broker outside its limited authority.

### **3.13.2. Credit Constraints**

Brokers must maintain up to date knowledge of any counterparty credit constraints. Dealers must inform brokers of their credit availability with their counterparties and any specific limits such as tenor that may be applicable for each counterparty. Credit constraints cannot be revised at the point of execution.

Dealers must not cite the non availability of credit limits for the purpose of avoiding a deal with a counterparty or completing an agreed deal, when this is not true.

Where a dealer has more than one name in which they can deal, they should use reasonable endeavours to switch names if the other counterparty cannot trade with one of the entities.

### **3.13.3. Referencing Prices**

If an order is placed with a broker under reference then that price should not be displayed on the broker screen unless clearly marked as being under reference and the broker should refer to the trader before dealing at the specified price.

A broker may only reference their entire broker screen if all the respective traders have specifically referenced every price on that particular screen. If this is not the case, then the broker must instead remove the prices that have been specifically referenced, leaving only live prices on the screen.

### **3.13.4. Refreshed Prices**

End of day prices must be cleared before 08:50 AEDT the following day. All onscreen prices are deemed to be firm from 09:50 AEDT till 12:30 AEDT and again from 14:00 AEDT until 16:00 AEDT. Screens should be refreshed by 14:00 AEDT following the broker confirming with the dealer that the price is firm again. If this is not possible, any bid or offer that cannot be reconfirmed should be removed from the screen.

Outside these times, dealers should check the firmness of a price with the broker before dealing.

### **3.13.5. Non – Standard Contract Clauses**

From time to time participants may look to post prices with brokers that are subject to “non standard” contracting provisions.

Brokers should consider the number of participants who are able to trade using the non standard clause(s) before showing the price to the market. If shown to the market, such prices should be shown separate to the "main" screen area (e.g. off to the right).

### **3.13.6. Off Screen Prices**

Off screen bids and offers are a genuine trading strategy, however dealers and brokers should continue to apply OTC conventions and code of conduct principles in the use of off screen bids and offers. For example:

- Firmness of quotation rules are the same whether a price is on screen or not
- Timing of stack rules still apply, e.g. first bid at a given price is the first one to trade if a price is given

## **3.14. Confidentiality**

### **3.14.1. Point of Dealing**

Brokers must not pass names of counterparties prior to dealing, unless both parties have agreed to the passing of names.

### **3.14.2. Subsequent to Deal Execution**

When dealing directly or through a broker neither of the parties should disclose the name of the counterparty to other market participants.

## **3.15. Credit**

Deals are subject to credit limits. If a party is unable to deal with a counterparty due to credit constraints the relevant counterparty and brokers must be informed of this as soon as is practicable.

The quoting of a firm price direct to a counterparty signifies that that counterparty has credit lines in place sufficient to cover the transaction quoted or the standard sized dealing parcel if no amount has been stated.

## **3.16. Exercise of Options**

Exercise will be automatic for caps and floors.

Exercise will be automatic for Asian calls and puts if the unweighted arithmetic mean of the relevant reference price is above the strike price for a call or below the strike price for a put.

In the case of swaptions it will be the responsibility of the buyer to notify the seller, by the nominated expiry time on the expiry date, whether they intend to exercise the option.

### **3.17. Data Source**

Not applicable.

### **3.18. Pricing formulae**

Not applicable.

### **3.19. Other**

#### **3.19.1. Capacity to Deal**

It is the responsibility of the counterparty to a transaction to ensure that their counterpart dealer is an authorised dealer for that entity.

However, if an authorised dealer enters into negotiations or shows a price for a transaction all other dealers are entitled, without further enquiry, to assume in all dealings that the counterparties authorised dealer have in place all necessary authorities and delegations to enter into the transaction. It is inappropriate for a counterparty to require other dealers to take the risk that the member's dealer is trading without authority by advising the counterparty of the dealer's dealing limits.

## **4. Confirmations**

### **4.1. Timing**

Written confirmation of transactions will be initiated by the floating rate payer (or the option seller in the case of an option transaction) and then authorised and returned by the fixed rate payer (or the option buyer). The parties may agree to vary these arrangements from time to time.

Confirmations will be sent on the business day following the trade date and returned on the next business day after that.

Where the terms of the transaction are not standard in nature, additional drafting of confirmations may be required. In these instances, the timing convention as outlined above may be varied and the

issuance of a term sheet for non standard transactions should immediately follow the agreement of the transaction.

The issuance of term sheets for non standard transactions should follow the conventions set out in [Section 4.1.1](#).

#### **4.1.1. Term Sheets for Non Standard Transactions**

If there is to be any delay in the issuing of a confirmation for a transaction following its agreement, the floating rate payer (seller) should prepare and send a term sheet to the relevant parties outlining the details of the agreed transaction.

This term sheet is not a substitute for a confirmation, but is an appropriate measure to ensure all parties are aware of the key terms of the transaction that has been agreed.

The term sheet should contain the key terms of the transaction, including (as appropriate):

- Trade date
- Buyer (fixed rate payer)
- Seller (floating rate payer)
- Start date
- End date
- Product type
- Volume profile
- Price profile
- Regional reference node of the floating price
- Brief details of any additional features agreed between the parties
- Exercise date

The term sheet should be prepared by the dealer of the floating rate payer (seller) according to the terms agreed with the fixed rate payer (buyer) and sent to their middle and back offices, as well as to the corresponding dealer of the fixed rate payer.

The back office of the floating rate payer should send the term sheet to the back office of the fixed rate payer.

This process will ensure all relevant parties are kept informed of the transactions agreed between the dealers.

The subsequent formal confirmation of the transaction should occur as soon as possible after the transaction has been agreed.

## **4.2. Obligations of Dealers**

The trader should enter the deal in a timely manner to enable written confirmations to be sent out in accordance with [Section 4.1](#).

If one party to a deal wishes to affirm it, the trader, or another suitably authorised employee, should contact the counterparty to verbally affirm it. Ideally such affirmations should be done within one hour of the trade but at the latest by close of business the same day.

## **4.3. Documentation**

Counterparties should refer to the AFMA [Guide to Australian OTC Transactions](#).

# **5. Settlements**

## **5.1. Cash Settlements**

NEM prices and fixed prices are rounded to 2 decimal places (dp) and applied to each Calculation Period. Conversions of MW to MWh are rounded to 4 dp. Calculation Period settlement amounts are then rounded to 4 dp and weekly settlement to 2dp.

The Billing Period corresponds to the Australian Energy Market Operator (AEMO) billing period.

### **Settlement calculations under the AFMA Carbon Benchmark Addendum**

The Average Carbon Intensity (ACI) is rounded to 4dp, the Carbon Reference Price (CRP) is a dollar value and rounded to 2 dp. The resulting Carbon Adjustment (CA) is rounded to 2 dp and applied to all Calculation Periods in a particular Billing Period.

The methodology behind, and an example of, the calculation of ACI is provided in Part 3.8.20 of the subscription-based "[Guide to Australian OTC Transactions](#)".

### **5.1.1. Electricity Swaps**

Settlement will be in accordance with the schedule established by the market operator in the host or reference node (currently the 20th business day following the end of the billing period). Parties may vary the settlement arrangements if both agree.

Determination of settlement amounts require the quantity quoted in MW to be converted to a Notional Quantity of MWh per Calculation Period to account for the spot price calculations.

Calculation Periods are aligned to trading intervals under the National Electricity Rules, which are 30 minute periods up until 30 June 2021 and 5 minute periods from 1 July 2021 onwards.

The Notional Quantity per Calculation Period (in MWh) is determined by multiplying the capacity amount (in MW) by the period of time comprising the Calculation Period (in hours).

The settlement formula for a standard bilateral swap, in each Calculation Period, is as follows:

$$\text{Notional Quantity (in MWh)} \times [\text{Fixed Price (in \$/MWh)} - \text{Spot Price (in \$/MWh)}] = \text{Settlement Amount (in \$)}$$

The settlement amounts may be positive or negative over time.

### **5.1.2. Caps and Floors**

Settlement will be in accordance with the schedule established by the market operator in the host or reference node (currently the 20th business day following the end of the billing period). Both parties may vary the settlement arrangements.

Caps and floors are also settled on a Notional Quantity per Calculation Period basis, with the Calculation Periods aligned to trading intervals under the National Electricity Rules.

The settlement amounts can only be positive.

### **5.1.3. Asian Calls and Puts**

Settlements resulting from strike price differentials under Asian calls and puts are payable on the next NEM settlement date after the end of the averaging period, except if that date is within two local business days of the end of the averaging period, in which case the payment may be made at the subsequent NEM settlement date.

#### *Strike Price Differential*

The price, expressed as a price per unit, equal to the excess, if a positive number, of the strike price over the unweighted arithmetic mean of the relevant price for each pricing date that occurs during the averaging period where a put. Alternatively the price, expressed as a price per unit, equal to the excess, if a positive number, of the unweighted arithmetic mean of the relevant price for each pricing date that occurs during the averaging period over the strike price where a call.

The strike price differential is to be calculated to 4dp, settlement amounts to 2dp.

Settlement amounts can only be positive.

## **5.2. Settlement of Swaptions**

Swaps resulting from the exercise of a swaption will be settled in accordance with electricity swap market settlement conventions.

## **5.3. Settlements Failures**

Not applicable.