# Electricity Contract Co-Design Working Group: Recommended Contract Structures

November 2026

# Bulk Energy: Regional Reference PPA

***All terms and contract positions are subject to change and further refinement.***

## Overview

The Regional Reference Power Purchase Agreement (RRPPA) provides:

- the **Buyer** exposure to the index performance of a Regional Reference Fleet of renewable projects;
- the **Seller** with long-term, contracted revenue at a Fixed Price for volumes calculated based on output of the Regional Reference Fleet.

## Concept

The RRPPA aims to facilitate the entry of technologies that are capable of generating zero emissions electricity, including wind and solar. The agreement is based on a swap structure. It works by fixing the price received by the Seller per MWh of output, where the volume is derived based on the Regional Reference Index. Compared to a run of plant PPA, the RRPPA is a fungible product and reduces the volume risk that Buyers are exposed to from individual projects, while retaining incentives for the Sellers to outperform the Regional Reference Fleet.

## Core commercial terms

| Key Term | Description |
|---|---|
| **Overview** | |
| **Seller** | **XX**<br>***Note**: The Seller is intended to be the owner of the project used to physically defend the agreement, however, the swap may be later offered to the market by the ESEM Administrator.* |
| **Buyer** | **XX**<br>***Note**: the Buyer is intended to be the ESEM Administrator at first instance, however, the swap may be offered to the market by the ESEM Administrator.* |
| **First Calculation Period Start Date** | **XX/XX/XX**<br>***Note:** the First Calculation Period Start Date is a fixed date and is intended to be a period of XX years, following COD. It is anticipated that the Seller obtains contracts from the market as required, during the period between COD and the First Calculation Period.* |
| **Contract Term** | **XX** years, commencing from the First Calculation Period Start Date.<br>***Notes:***<br>• *Tender design parameters will confirm whether the Seller must offer for a fixed number of years or whether this is a bid parameter.*<br>• *The Contract is not designed as a series of options. If the Seller wishes to 'opt-out' for a series of Calculation Periods, it can 'buy back' its position from the ESEM Administrator or secondary markets.* |
| **NEM Region** | [**NSW/QLD/SA/TAS/VIC**] |
| **Technology** | [**Solar/Wind**] |
| **Fixed Price ($/MWh)** | $**XX**/MWh<br>***Notes:***<br>• *The Fixed Price ($/MWh) is the agreed amount that the Seller will receive for the Notional Quantity.*<br>• *Tender design parameters will confirm whether the Fixed Price will be entered as a fixed value or a schedule of prices e.g. a single price per year during the agreement.* |

| Key Term | Description |
|---|---|
| **Floating Price ($/MWh)** | The Spot Price (in $/MWh) set by AEMO for a Trading Interval at the Regional Reference Node. |
| **Contract Capacity (MW)** | **XX** MW of capacity of the specified Technology within the NEM Region.<br>***Note:*** *Tender design will confirm whether the Contract Capacity can be entered as a fixed MW or an annual schedule of Contract Capacity.* |
| **Settlement** | |
| **Calculation Period (CP)** | The Calculation Period shall be aligned to the AEMO NEM settlement calendar and occur weekly. |
| **Regional Reference Fleet (RRF)** | The RRF contains all Operational projects of the specified Technology within the specified NEM Region with a Nameplate Capacity of 30MW or greater.<br>***Notes:***<br>• *The RRF will be published annually by the ESEM Administrator.*<br>• *Nameplate Capacity is envisaged to be determined using the most recent version of AEMO's NEM Generation Information Spreadsheet published at the time of determining the RRF.*<br>• *The WG has identified that further work is required to define 'Operational' in further detail, including considerations related to projects that are in commissioning and outages.*<br>• *The WG envisage that hybrid projects could be included in the RRF, where the dispatched output of the variable renewable energy (VRE) component can be identified separately in AEMO 5-minute dispatch data. This will likely require a separate dispatchable unit identifier (DUID) for VRE and storage components. The WG envisage that a hybrid project that is not included in the RRF could still bid for a RRPPA contract.* |
| **Regional Reference Fleet Capacity (MW)** | RRF Capacity is the total nameplate capacity (MW) of the RRF.<br>$RRF\ Capacity = \sum_1^n Nameplate\ Capacity_n$, where:<br>• n is the number of projects within the RRF.<br>• Nameplate Capacity$_n$ is the nameplate capacity (MW) registered with AEMO for each project. |
| **Scaling Factor$_n$** | $Scaling\ Factor_n = \min(1, \frac{Contribution\ Cap \times RRF\ Capacity}{Nameplate\ Capacity_n})$, where:<br>• n represents an individual project.<br>• Contribution Cap is a percentage determined by the ESEM Administrator for the specified Region.<br>***Note:*** *Each project within the RRF is scaled so that its contribution to the Regional Reference Index (RRI) is capped This seeks to limit index inter-year variability and skewing of the index by one particular project, particularly in regions with smaller reference fleets at ESEM commencement. The WG had considered 10% as a reasonable starting position for the Contribution Cap, however, noted that this could vary for different states and technologies.* |
| **Regional Reference Index$_{TI}$ (RRI)** | The RRI represents the capacity factor of the RRF for a Trading Interval, accounting for scaling.<br>$RRI_{TI} = \frac{\sum_1^n Scaling\ Factor_n \times Dispatched\ Output_{n,TI} \times LF_n}{\sum_1^n Scaling\ Factor_n \times Nameplate\ Capacity_n}$, where:<br>• n is the number of projects within the Regional Reference Fleet.<br>• Dispatched Output$_{n,TI}$ (MW) is the generation output (MW) of project n within the RRF in a Trading Interval as per AEMO 5-minute dispatch data.<br>• LF$_n$ is the applicable marginal and distribution loss factors for project n. |
| **Notional Quantity$_{TI}$ (MWh)** | The quantity of electricity (MWh) that applies for a Trading Interval.<br>$Notional\ Quantity_{TI} = Contract\ Capacity \times \frac{TI\ Duration}{60} \times RRI_{TI}$, where:<br>• TI Duration is the number of minutes in a Trading Interval (5 minutes). |

| Key Term | Description |
|---|---|
| **Settlement Amount$_{CP}$ ($)** | $Settlement\ Amount_{CP} = \sum_1^n Notional\ Quantity_{TI} \times (Floating\ Price_{TI} - Fixed\ Price)$, where<br>• n is the number of Trading Intervals in the Calculation Period.<br>For Trading Intervals where:<br>• the Floating Price is greater than $600/MWh, the Floating Price shall be taken to be $600/MWh.<br>• the Floating Price is less than $0/MWh, the Floating Price shall be taken to be $0/MWh.<br>***Notes**:*<br>• *Where the Settlement Amount is negative (reflecting a low-price scenario), the Buyer must pay the absolute value of the Settlement Amount to the Seller.*<br>• *Where the Settlement Amount is positive (reflecting a high-price scenario), the Seller must pay the value of the Settlement Amount to the Buyer.* |
| **Treatment of green certificates** | Green certificates shall be retained by the Seller.<br>***Note**: The WG note that green certificates by their nature are tied to the physical plant and hence should be held by the Seller to maintain fungibility.* |

## Other terms

| Key Term | Description |
|---|---|
| **Physical Performance Obligations** | No physical performance obligations will apply.<br>***Note**: As this is a financial instrument, physical performance obligations do not apply. See comments below on Force Majeure.* |
| **Contract Term Preconditions** | No contractual preconditions to the start of the Contract Term.<br>***Note**: Whilst pre-conditions are not intended to be within the scope of the agreement, it is envisaged that there may be the need for a separate Project Development Agreement between the ESEM Administrator and Seller prior to Commercial Operations Date, subject to further consideration by the NEM Review Implementation Taskforce.* |
| **Force Majeure** | ***Note**: The WG and the NEM Review Implementation Review Taskforce are considering how the ESEM can most efficiently manage Force Majeure risk (for limited events) for Sellers.*<br>*The agreement is not envisaged to include specific carve outs for physical Force Majeure events, aligning with the contract attributes outlined in the WG's Terms of Reference.*<br>*The Seller will be responsible for managing all other risks associated with the project underlying the agreement.* |
| **Security** | ***Note**: It is envisaged that the Buyer will enter into a template Master Agreement (e.g. ISDA Master Agreement) with each Seller on identical terms. This Master Agreement is anticipated to set out key terms including security, termination, change in law events, market suspension and payment terms that will be consistent for all ESEM Agreements and, where relevant, drawing on the Australian Electricity Addendum published in the AFMA Guide to Australian OTC Transactions as is frequently used in Australia for OTC agreements agreed under an ISDA Master Agreement* |
| **Termination** | |
| **Change in law** | |
| **Market suspension** | |
| **Payment Terms** | |

## Risk allocation and incentives summary

The below table provides a summary of how the agreement shares risks between the Buyer and Seller.

| Risk | Buyer | Seller |
|---|---|---|
| **Price risk** | The Buyer is exposed to the difference between the Fixed Price and the Floating Price (between $0 and $600). | The Seller receives the Fixed Price based on the Notional Quantity derived from the Regional Reference Index above $0 and below $600. The seller retains spot exposure below $0 and above $600. |
| **Volume risk** | The Buyer receives a hedge from the Regional Reference Index of the fleet, but is still exposed to systemic volume risk. | The Seller does not have a fixed volume obligation, but is exposed to mismatches between its output and the Notional Quantity derived from the Regional Reference Index. Seller retains the idiosyncratic risk. |
| **MLF/Constraint Risk** | The Buyer is exposed to systemic MLF/constraint risks where these impact the Regional Reference Index. | The Seller is exposed to mismatches between its output and the Notional Quantity derived from the Regional Reference Index., including MLF and constraint risks. Seller retains the idiosyncratic risk. |
| **Shape** | The Buyer holds the systemic shape risk of the Regional Reference Fleet. | The Seller is exposed to differences between the Regional Reference Fleet and the project's individual shape. Seller retains the idiosyncratic risk. |
| **Long term contract value risk** | The ESEM Administrator holds the risk of long-term value of the agreement. | The Seller receives a known Fixed Price for the period of the agreement. |
| **Negative prices** | Under the $0 floor mechanism, the Buyer pays the Fixed Price during negative price intervals. | Under the $0 floor mechanism, the Seller receives the Fixed Price during negative price intervals, however, price signals are maintained where the Floating Price is less than the negative of LGC/REGO price. |
| **Force Majeure** | ***Note**: The WG and the NEM Review Implementation Review Taskforce are considering how the ESEM can most efficiently manage Force Majeure risk (for limited events) for Sellers.*<br>*The agreement is not envisaged to include specific carve outs for physical Force Majeure events, aligning with the required contract attributes outlined in the WG's Terms of Reference.*<br>*The Seller will be responsible for managing all other risks associated with the project underlying the agreement.* | |
| **Market intervention / suspension** | ***Note:** It is envisaged that the Master Agreement will contain provisions to appropriately manage scenarios for Trading Intervals where the underlying index(es) are unavailable (as is typical for ISDA/AFMA standard electricity provisions for PPAs in the NEM).* | |
| **Regulator/market rule change risk** | ***Note:** It is envisaged that the Master Agreement will contain provisions to appropriately manage regulatory / market rule changes over the duration of the agreement (as is typical for ISDA/AFMA standard electricity provisions for PPAs in the NEM).* | |

## Settlement Examples

The below tables provide illustrative examples of settlement calculations for a single Trading Interval. In Examples 2, 4 and 6 the Regional Reference Index is reduced, demonstrating the impact of variable reference output on settlement. In Examples 3 and 4, the Floating Price is negative and in Examples 5 and 6 the Floating Price is above the Fixed Price.

| | | | |
|---|---|---|---|
| Technology | Solar farm | Plant Capacity **(B)** | 120MW |
| Calculation Period | 5 minutes (e.g. 1 Trading Interval) | Contract Capacity **(C)** | 120MW (e.g. 100% contracted) |
| Fixed Price **(A)** | $100/MWh | | |

| Example | Floating (spot) Price ($/MWh) **(D)** | **Spot Revenues** | | **Reference Fleet** | **Agreement Settlement** | | **Net Seller Position** |
|---|---|---|---|---|---|---|---|
| | | Seller Generation Volume (MWh) **(E)** | Spot Revenue ($) ***(F) = (D)x(E)*** | Regional Reference Index **(G)** | Notional Quantity ***(H) = (G) x(A)/12*** | Settlement Amount ***(I) = (H) x ((D)-(A)). If (D) < $0, (D) =$0, If (D) > $600, (D) =600.*** | Net Seller Position ***(J) = (F) - (I)*** |
| 1 | $20 | 5.0 | **$100** | 0.75 | 7.5 | -$600 | **$700** |
| 2 | $20 | 5.0 | **$100** | 0.25 | 2.5 | -$200 | **$300** |
| 3 | -$20 | 5.0 | **-$100** | 0.75 | 7.5 | -$750 | **$650** |
| 4 | -$20 | 5.0 | **-$100** | 0.25 | 2.5 | -$250 | **$150** |
| 5 | $200 | 5.0 | **$1,000** | 0.75 | 7.5 | $750 | **$250** |
| 6 | $200 | 5.0 | **$1,000** | 0.25 | 2.5 | $250 | **$750** |

# Shaping: Daily Dynamic Block Spread Swap

***All terms and contract positions are subject to change and further refinement.***

## Overview

The Daily Dynamic Block Spread (DDBS) swap provides:

- **A Buyer** with reduced exposure to daily wholesale price spreads in exchange for a fixed premium. The Buyer receives a hedge against the high/low in wholesale market.
- **A Seller** with long-term, stable cash-flows from premiums.

## Concept

The DDBS aims to facilitate the entry of technologies that are capable of matching the intraday profiles of supply and demand. This could involve technologies that can provide a range of durations (e.g. 2,4,6,8 hrs). The DDBS uses an ex-ante, dynamic approach to defining the forecast optimal periods for discharge and charge a day ahead of time, with the actual block spread for a day calculated ex-post (based on the ex-ante nomination blocks). This approach promotes existing market signals and a method of nominating blocks that is flexible and retains market signals. Sellers retain the incentive to dispatch and outperform the daily spread in real time, based on their own risk appetite and debt financing terms.

## Core commercial terms

| Key Term | Description |
|---|---|
| **Overview** | |
| **Seller** | **XX**<br>***Note**: The Seller is intended to be the owner of the project used to physically defend the agreement, however, the position may be later offered back to the market by the ESEM Administrator.* |
| **Buyer** | **XX**<br>***Note**: the Buyer is intended to be the ESEM Administrator at first instance, however, the swap may be offered back to the market by the ESEM Administrator.* |
| **First Calculation Period Start Date** | **XX/XX/XX**<br>***Note:** the First Calculation Period is a fixed date and is intended to be a period of **XX** years, following COD. During the period between COD and the First Calculation Period, it is anticipated that the Seller obtains contracts from the market as required.* |
| **Contract Term** | **XX** years, commencing from the First Calculation Period Start Date.<br>*Notes:*<br>• *Tender design parameters will confirm whether the Seller must offer for a fixed number of years or whether this is a bid parameter.*<br>• *The Contract is not designed as a series of options. If the Seller wishes to 'opt-out' for a series of Calculation Periods, it can 'buy back' its position from the ESEM Administrator or secondary markets.* |
| **NEM Region** | [**NSW/QLD/SA/TAS/VIC**] |
| **Shaping Duration** | **XX** hours<br>***Note**: The duration of the charge/discharge periods. e.g. 2 hrs means both Charge and Discharge Periods are 2 hrs. ESEM Administrator to set duration(s) for a particular tender.* |

| Key Term | Description |
|---|---|
| **Fixed Spread ($/MWh)** | $**XX**/MWh<br>***Notes:***<br>• *The Fixed Spread represents the agreed difference ($/MWh) between the average Floating Price in the nominated Charge Period(s) and Discharge Period(s).*<br>• *Tender design parameters will confirm whether the Fixed Spread will be entered as a fixed value or a schedule of prices e.g. a single price per year during the agreement.* |
| **Contract Capacity (MW)** | **XX** MW<br>***Note:*** Tender design will confirm whether the Contract Capacity can be entered as a fixed MW or an annual schedule of Contract Capacity. |
| **Floating Price ($/MWh)** | The Spot Price (in $/MWh) set by AEMO for a Trading Interval at the Regional Reference Node. |
| **Settlement** | |
| **Calculation Period (CP, days)** | The Calculation Period (days) shall be aligned to the AEMO NEM settlement calendar and occur weekly. |
| **Daily Shaping Period** | A Daily Shaping Period commences at the Trading Interval ending at **16:05** and finishes at the Trading Interval ending at **16:00** the following day. |
| **Determining Charge and Discharge Periods** | The ESEM Administrator will determine Charge and Discharge Periods based on forecast Residual Demand, where:<br>$Residual\ Demand_{TI} = Operational\ Demand_{TI} -$<br>$(Forecast\ Solar\ PV\ Output_{TI} + Forecast\ Wind\ Output_{TI})$<br>• Charge Periods are the forecast periods of lowest residual demand in the Daily Shaping Period.<br>• Discharge Periods are the forecast periods of highest residual demand in the Daily Shaping Period.<br>In determining the Charge and Discharge Periods, the ESEM Administrator must:<br>• Nominate two or less Charge Periods and two or less Discharge Periods per day.<br>• Nominate Charge Periods and Discharge Periods such that the total of each is equal to the Shaping Duration.<br>• Nominate a Charge Period or Discharge Period that is 6 or more Trading Intervals (30 minutes) in duration.<br>***Note:*** *the WG has selected Residual Demand as the preferred method for determining Charge and Discharge periods, due to its high correlation with price in an energy system with a high penetration of renewables. Limits on the Charge and Discharge periods are applied to manage some Seller exposure risk, whilst ensuring the product is still valuable in hedging Buyer exposures over morning and evening peak periods. The WG has not elected to include any terms related to Round Trip Efficiency and hence the Seller would consider this in its bid.* |
| **Publishing Nominations** | The ESEM Administrator will publish nominated Charge and Discharge Periods at **13:00** each day for the following Daily Shaping Period.<br>***Note:*** *the WG considered that over 3hrs notice was preferable to provide sufficient notice for Sellers to manage exposures* |
| **Realised Spread ($/MWh)** | $Realised\ Spread_n = Discharge\ Price_n - Charge\ Price_n$ , where:<br>• n is a Daily Shaping Period. |

| Key Term | Description |
|---|---|
| | • Discharge Price ($/MWh) is the average Floating Price during the defined Discharge Period(s) for a Daily Shaping Period.<br>• Charge Price ($/MWh) is the average Floating Price during the defined Charge Period(s) for a Daily Shaping Period. |
| **Notional Quantity (MWh)** | The quantity of electricity (MWh) that applies for a Daily Shaping Period.<br>$Notional\ Quantity = Contract\ Capacity \times Shaping\ Duration$ |
| **Settlement Amount ($)** | $Settlement\ Amount = Notional\ Quantity \times \sum_1^n (Realised\ Spread_n - Fixed\ Spread)$, where:<br>• n is the number of Daily Shaping Periods in the Calculation Period.<br>*Notes:*<br>• *Where the Settlement Amount is negative (reflecting a low realised spread scenario), the Buyer must pay the absolute Settlement Amount to the Seller;*<br>• *Where the Settlement Amount is positive (reflecting a high realised spread scenario), the Seller must pay the Settlement Amount to the Buyer.* |

## Other key terms

| Key Term | Description |
|---|---|
| **Physical Performance Obligations** | No physical performance obligations will apply.<br>***Note**: As this is a financial instrument, physical performance obligations do not apply. See below on Force Majeure.* |
| **Contract Term Preconditions** | No contractual preconditions apply to the start of the Contract Term.<br>***Note**: Whilst pre-conditions are not intended to be within the scope of the agreement, it is envisaged that there may be the need for a separate Project Development Agreement between the ESEM Administrator and Seller prior to Commercial Operations Date, subject to further consideration by the NEM Review Implementation Taskforce.* |
| **Force Majeure** | ***Note**: The WG and the NEM Review Implementation Review Taskforce are considering how the ESEM can most efficiently manage Force Majeure risk (for limited events) for Sellers.*<br>*The agreement is not envisaged to include specific carve outs for physical Force Majeure events, aligning with the contract attributes outlined in the WG's Terms of Reference.*<br>*The Seller will be responsible for managing all other risks associated with the project underlying the agreement.* |
| **Security** | ***Note**: It is envisaged that the Buyer will enter into a template Master Agreement (e.g. ISDA Master Agreement) with each Seller on identical terms. This Master Agreement is anticipated to set out key terms including security, termination, change in law events, market suspension and payment terms that will be consistent for all ESEM Agreements and, where relevant, drawing on the Australian Electricity Addendum published in the AFMA Guide to Australian OTC Transactions as is frequently used in Australia for OTC agreements agreed under an ISDA Master Agreement.* |
| **Termination** | |
| **Change in law** | |
| **Market suspension** | |
| **Payment Terms** | |

## Risk allocation and incentives

| Risk | Buyer | Seller |
|---|---|---|
| **Price risk** | The Buyer is exposed to the difference between the Realised Spread and the Fixed Spread. | The Seller receives the Fixed Spread. |
| **Volume risk** | The Notional Quantity is fixed and hence the Buyer is not exposed to volume risk. | The Seller holds the risk of defending the agreed Notional Quantity, including curtailment, MLF, round trip efficiency and degradation risks. |
| **Shape** | The Buyer is exposed to the alignment between the nominated Charge Period(s) and Discharge Period(s) and the actual realised high/low periods for each Daily Shaping Period. | The Seller holds the risk of defending the Charge Period(s) and Discharge Period(s). |
| **MLF/Constraint Risk** | The Notional Quantity is fixed and hence the Buyer is not exposed to volume risk. | The Seller holds the risk of defending the agreed Notional Quantity, including MLF and constraint risks. |
| **Long term contract value risk** | The ESEM Administrator holds the risk of long-term value of the agreement. | The Seller receives a known Fixed Price for the period of the agreement. |
| **Force Majeure** | ***Note:*** As noted above, *the WG and the NEM Review Implementation Review Taskforce are considering how the ESEM can most efficiently manage Force Majeure risk (for limited events) for the Seller. The Seller is responsible for managing other risks associated with the project underlying the agreement.* | |
| **Market intervention / suspension** | ***Note:*** *It is envisaged that the Master Agreement will contain provisions to appropriately manage scenarios for Trading Intervals where the underlying index(es) are unavailable (as is typical for ISDA/AFMA standard electricity provisions for PPAs in the NEM).* | |
| **Regulator/market rule change risk** | ***Note:*** *It is envisaged that the Master Agreement will contain provisions to appropriately manage regulatory / market rule changes over the duration of the agreement (as is typical for ISDA/AFMA standard electricity provisions for PPAs in the NEM).* | |

# Settlement Examples

The below tables provide illustrative examples of settlement calculations for a Daily Shaping Period. In Examples 2 and 4, the Discharge Price is increased, demonstrating the impact of a large daily spread on settlement. In Examples 3 and 4 the Seller Daily Volume is less than Notional Quantity, demonstrating the impact of a Seller not defending its spread on settlement (noting revenues earned outside of the charge/discharge periods are not considered).

| | | | |
|---|---|---|---|
| Plant type and location | BESS | Fixed Spread **(C)** | $120/MWh |
| Calculation Period | 1 Day (1 Daily Shaping Period) | Plant Capacity **(D)** | 100MW |
| Shaping Duration (hours) **(A)** | 4 | Plant Storage (E) | 4 hrs |
| Contract Capacity **(B)** | 100MW (e.g. 100% contracted) | | |

| Example | Spot Market | | | Spot Revenues | | Agreement Settlement | | Net Seller Position |
|---|---|---|---|---|---|---|---|---|
| | Charge Price **(F)** | Discharge Price **(G)** | Realised Spread **(H) = (G)-(F)** | Seller Daily Cycle Volume (MWh) **(I)** | Spot Revenue ($) ***(J) = (I)x(H)*** | Notional Quantity **(K) = *(A) x (B)*** | Settlement Amount ***(I) = (K) x ((H)-(C))*** | Net Seller Position ***(M) = (J) - (I)*** |
| 1 | $50 | $100 | $50 | 400 | **$20,000** | 400 | -$28,000 | **$48,000** |
| 2 | $50 | $200 | $150 | 400 | **$60,000** | 400 | $12,000 | **$48,000** |
| 3 | $50 | $100 | $50 | 100 | **$5,000** | 400 | -$28,000 | **$33,000** |
| 4 | $50 | $200 | $150 | 100 | **$15,000** | 400 | $12,000 | **$3,000** |

# Firming: $600 Cap Contract

***All terms and contract positions are subject to change and further refinement.***

## Overview

The $600 Cap provides:

- A **Buyer** with reduced exposure to volatility in exchange for a fixed premium.
- A **Seller** with long-term, stable cash-flows from premiums, in return for capping wholesale costs for the Buyer during volatile events.

## Concept

The $600 cap aims to facilitate the entry of dispatchable technologies that are capable of being dispatched continuously for the time it takes to reach the cumulative price threshold. At the market price cap, this would require technologies that can be dispatched continuously at their contracted output for approximately 8 hours[1]. To achieve this, the $600 cap converts uncertain but significant wholesale price exposure into a consistent cash-flow, providing increased certainty for Buyer and Seller. The $600 strike price provides the Seller with some opportunity for under cap wholesale revenues whilst protection Buyers from volatile events.

## Core commercial terms

| Key Term | Description |
|---|---|
| **Overview** | |
| **Seller** | **XX**<br>***Note**: The Seller is intended to be the owner of the project used to physically defend the agreement, however, the position may be later offered back to the market by the ESEM Administrator.* |
| **Buyer** | **XX**<br>***Note**: the Buyer is intended to be the ESEM Administrator at first instance, however, the swap may be offered back to the market by the ESEM Administrator.* |
| **First Calculation Period Start Date** | **XX/XX/XX**<br>***Note:** the First Calculation Period is a fixed date and is intended to be a period of XX years, following COD. It is anticipated that the Seller obtains contracts from the market as required, during the period between COD and the First Calculation Period.* |
| **Contract Term** | **XX** years, commencing from the First Calculation Period Start Date.<br>***Notes:***<br>• *Tender design parameters will confirm whether the Seller must offer for a fixed number of years or whether this is a bid parameter.*<br>• *The Contract is not designed as a series of options. If the Seller wishes to 'opt-out' for a series of Calculation Periods, it can 'buy back' its position from the ESEM Administrator or secondary markets.* |

[1] The NEM Review Final Report also contemplated a possible need for 'special tenders', particularly for technologies facing barriers beyond the tenor gap. These special tenders are not within the Terms of Reference of the Working Group.

| Key Term | Description |
|---|---|
| **NEM Region** | [**NSW/QLD/SA/TAS/VIC**] |
| **Floating Price ($/MWh)** | The Spot Price (in $/MWh) set by AEMO for a Trading Interval at the Regional Reference Node. |
| **Strike Price ($/MWh)** | $600/MWh<br>***Note**: The Strike Price is the Floating Price ($/MWh) above which Cap Repayments occur.* |
| **Contract Capacity (MW)** | **XX** MW<br>***Note:** Tender design will confirm whether the Contract Capacity will be entered as a fixed MW or an annual schedule of Contract Capacity.* |
| **Contract Price ($/MW)** | $**XX**/MWh<br>***Notes:***<br>• *The Contract Price ($/MWh) is the agreed amount that the Seller will receive for the Notional Quantity.*<br>• *Tender design parameters will confirm whether the Contract Price will be entered as a fixed value or a schedule of prices e.g. a single price per year during the agreement.* |
| **Settlement** | |
| **Calculation Period (hrs)** | The Calculation Period (hrs) shall be aligned to the AEMO NEM settlement calendar and occur weekly. |
| **Notional Quantity (MWh)** | The quantity of electricity (MWh) that applies for the Calculation Period.<br>$Notional\ Quantity = Contract\ Capacity \times Calculation\ Period$ |
| **Contract Premium ($)** | $Contract\ Premium = Notional\ Quantity \times Contract\ Price$<br>The Buyer must pay the Seller the Contract Premium for each Calculation Period. |
| **Cap Repayment Amount ($)** | $Cap\ Repayment\ Amount = Notional\ Quantity \times (\sum_1^n Max\ (0, Floating\ Price_{TI} - Strike\ Price))$, where<br>• n is the number of Trading Intervals in the Calculation Period.<br>The Seller must pay the Buyer the Cap Repayment Amount for each Calculation Period. |
| **Settlement Amount ($)** | $Settlement\ Amount = Cap\ Repayment\ Amount - Contract\ Premium$<br>***Notes:***<br>• *Where the Settlement Amount is negative, the Buyer must pay the absolute value of the Settlement Amount to the Seller.*<br>• *Where the Settlement Amount is positive, the Seller must pay the value of the Settlement Amount to the Buyer.* |

## Other key terms

| Key Term | Description |
|---|---|
| **Physical Performance Obligations** | No physical performance obligations will apply. See below on Force Majeure.<br>***Note**: As this is a financial instrument, physical performance obligations do not apply.* |
| **Contract Term Preconditions** | No contractual preconditions to the start of the Contract Term.<br>***Note**: Whilst pre-conditions are not intended to be within the scope of the agreement, it is envisaged that there may be the need for a separate Project Development Agreement between the* |

| Key Term | Description |
|---|---|
| | *ESEM Administrator and Seller prior to Commercial Operations Date, subject to further consideration by the NEM Review Implementation Taskforce.* |
| **Force Majeure** | ***Note**: The WG and the NEM Review Implementation Review Taskforce are considering how the ESEM can most efficiently manage Force Majeure risk (for limited events) for the Seller given that the agreement will not have specific carve outs for physical Force Majeure.* |
| **Security** | ***Note**: It is envisaged that the Buyer will enter into a template Master Agreement (e.g. ISDA Master Agreement) with each Seller on identical terms. This Master Agreement is anticipated to set out key terms including security, termination, change in law events, market suspension and payment terms that will be consistent for all ESEM Agreements and, where relevant, drawing on the Australian Electricity Addendum published in the AFMA Guide to Australian OTC Transactions as is frequently used in Australia for OTC agreements agreed under an ISDA Master Agreement.* |
| **Termination** | |
| **Change in law** | |
| **Market suspension** | |
| **Payment Terms** | |

## Risk allocation

| Risk | Buyer | Seller |
|---|---|---|
| **Price risk** | The Buyer pays a fixed Contract Premium and is protected against prices above the Strike Price for the agreed volume. | The Seller receives a fixed Contract Premium, regardless of wholesale prices. The Seller is exposed to prices below the Strike Price. |
| **Volume risk** | The contract volume is fixed and hence the Buyer is not exposed to volume risk. | The Seller holds the risk of defending the agreed volume of the cap. |
| **Shape** | The Buyer is protected from all high price events above the strike price. | The Seller must be able to defend the cap for all high price events above the strike price. |
| **MLF/Constraint Risk** | The Notional Quantity is fixed and hence the Buyer is not exposed to volume risk. | The Seller holds the risk of defending the agreed Notional Quantity, including MLF and constraint risks. |
| **Long term contract value risk** | The ESEM Administrator holds the risk of long-term value of the agreement. | The Seller receives a known Contract Premium for the period of the agreement. |
| **Fuel Supply** | The contract volume is fixed and hence the Buyer is not exposed to fuel supply risks. | The Seller holds the risk of obtaining fuel supply to defend the cap. |
| **Force Majeure** | ***Note:** As noted above, the WG and the NEM Review Implementation Review Taskforce are considering how the ESEM can most efficiently manage Force Majeure risk (for limited events) for Sellers. The Seller is responsible for managing other risks associated with the project underlying the agreement.* | |
| **Market intervention / suspension** | ***Note:** It is envisaged that the Master Agreement will contain provisions to appropriately manage scenarios for Trading Intervals where the underlying index(es) are unavailable (as is typical for ISDA/AFMA standard electricity provisions for PPAs in the NEM).* | |
| **Regulator/market rule change risk** | ***Note:** It is envisaged that the Master Agreement will contain provisions to appropriately manage regulatory / market rule changes over the duration of the agreement (as is typical for ISDA/AFMA standard electricity provisions for PPAs in the NEM).* | |

## Settlement Examples

The below tables provide illustrative examples of settlement calculations for a single Trading Interval, demonstrating how the product caps Seller and Buyer exposure to Floating Prices above the Strike price.

| | | | |
|---|---|---|---|
| Plant type | Gas turbine | Plant Capacity **(C)** | 120MW |
| Calculation Period **(A)** | 5 minutes (e.g. 1 Trading Interval) | Contract Capacity **(D)** | 120MW (e.g. 100% contracted) |
| Strike Price **(B)** | $600/MWh | Contract Premium **(E)** | $20/MWh |

| Floating (spot) Price ($/MWh) **(F)** | **Spot Revenues** | | **Contract Settlement** | | | | **Net Seller Position** |
|---|---|---|---|---|---|---|---|
| | Seller Generation Volume (MWh) **(G)** | Spot Revenue ($) ***(H) = (F)x(G)*** | Notional Quantity (MWh) ***(I) = (A) x (C)*** | Contract Premium ($/MWh) ***(J) = (E)*(I)*** | Cap Repayment ***(K) = (I) x MAX(0,(F)-(B))*** | Settlement Amount ***(L) = (K)-(J)*** | Net Seller Position ***(M) = (H) - (L)*** |
| $300 | 10MWh | **$3,000** | 10MWh | $200 | $0 | -$200 | **$3,200** |
| $500 | 10MWh | **$5,000** | 10MWh | $200 | $0 | -$200 | **$5,200** |
| $600 | 10MWh | **$6,000** | 10MWh | $200 | $0 | -$200 | **$6,200** |
| $1000 | 10MWh | **$10,000** | 10MWh | $200 | $4000 | $3800 | **$6,200** |

# Important Notice

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