

# Sustainable energy – Power purchase arrangements

## Reporting Update

16 March 2022, 22RU-08

### Highlights

- The Australian energy market
- Accounting for Power Purchase Arrangements
- Corporate Power Purchase Arrangement example
- Accounting for energy credits

### The transition to renewable energy

Whilst historically a topic of interest to energy generators (Generators) and electricity retailers (Retailers), power purchase arrangements (PPAs) are more and more commonly being entered into by large scale energy users, including Corporates as part of their ESG strategy.

Corporates typically enter into PPAs with generators to obtain Large-scale Generation Certificates (LGCs) from the generator which will be used to offset emissions associated with the organisation's power consumed and to assist in meeting its sustainability targets.

Accounting for PPAs can be complex. Depending on the facts and circumstances, PPAs may be executory (procurement) contracts, leases or derivative financial instruments.

Collaboration between the procurement, sustainability and finance functions to understand the arrangements entered into will be critical to determine the impact on the organisation.

In this publication we highlight some of the key accounting considerations for PPAs.





# Sustainable energy - Power purchase arrangements

Accounting considerations

March 2022



# Introduction

In Australia, the national energy market is largely run on fossil fuels.

The Australian government has a target to reduce emissions by 26 to 28 percent by 2030 and a net zero commitment by 2050 while investors continue to push for a more carbon conscious economy.

As part of this change, the move to renewable energy in Australia will be predominantly driven by wind and solar.



## The transition to renewable energy

Whilst historically a topic of interest to energy generators (Generators) and electricity retailers (Retailers), power purchase arrangements (PPAs) are more and more commonly being entered into by large scale energy users, including Corporates as part of their ESG strategy.

Corporates typically enter into PPAs with Generators to obtain Large-scale Generation Certificates (LGCs) from the Generator which will be used to offset emissions associated with the organisation's power consumed and to assist in meeting its sustainability targets.

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# In Summary: Complexities in the accounting for PPAs

A PPA generally has two components, electricity and LGCs. Where there is no physical delivery of electricity to the Corporate, the electricity component is a derivative that is fair valued through the profit or loss. The LGCs are physically settled, and usually accounted for as either inventories or intangible assets by the Corporate.

The electricity derivative continues to be remeasured to fair value which results in both balance sheet and profit or loss volatility, which in turn may impact an organisation's key financial metrics. There is no active market for PPA electricity derivatives, therefore judgement applies in valuing the derivative.

Complexities generally arise as a result of the pricing mechanisms, level of observability of the long term electricity and LGCs prices, the allocation of the fixed price into the different components on a relative fair value basis and the valuation methodology.

Further potential complexities not covered in detail in this document which could impact the accounting and valuation of the arrangement include:

- Pricing that includes caps and floors;
- Options to extend the arrangement;
- Minimum and maximum generation clauses;
- Splitting a bundled price PPA into electricity and LGC components;
- Multi-party electricity supply contracts;
- Sourcing forecast forward NEM and LGC prices for the term of the arrangement;
- Forecasting expected generation output;
- Treatment of day one gains / losses;
- Estimating discount factors and credit risk adjustment;
- Other fees and costs.

Please reach out to your local KPMG contact to explore the impact of these complexities further.



# Contents

The Australian energy market	5
Accounting for Power Purchase Arrangements	7
Corporate Power Purchase Arrangement example	10
Accounting for energy credits	14
Appendix: IFRIC agenda decision	16



# The Australian energy market

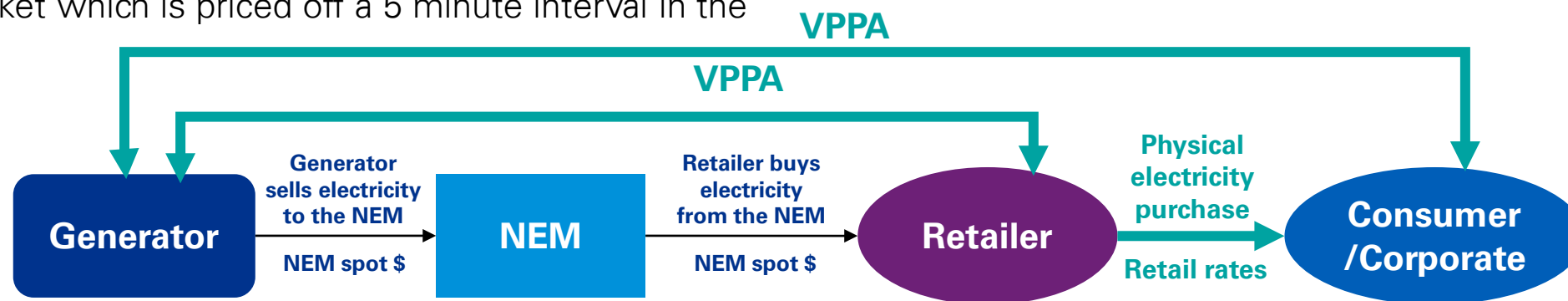
In Australia, with the exception of Western Australia and the Northern Territory, Retailers and Generators buy and sell electricity using the National Electricity Market (NEM). The NEM is operated by the Australian Energy Market Operator (AEMO) and consists of both the wholesale market, which allows registered NEM participants i.e. Generators and Retailers, to sell and buy electricity, and a retail market, which allows consumers - including Corporates - to choose the retailer from which they purchase their electricity.

The NEM involves wholesale generation of electricity transported via transmission lines from Generators to large industrial energy users and to local electricity distributors, which then deliver it to homes and businesses.

**Corporate PPAs:** A Corporate will often enter into a PPA with the objective of obtaining LGCs from the Generator. The PPA contract comprises both the delivery of LGCs to the Corporate and financial settlements based on a notional amount of electricity and an agreed fixed price per megawatt hour (MWh). The financial settlements during the term of the arrangement are based on the difference between the agreed fixed price per MWh and the spot price in the market which is priced off a 5 minute interval in the spot market.

There is no physical delivery of electricity under the PPA. As such, these PPAs are sometimes known as contracts for differences or virtual PPAs (VPPAs). Separately, the Generator and Retailer sell and buy, respectively, to and from the NEM at spot prices. Corporates buy electricity from the Retailer at retail rates.

Retailers may also enter into VPPAs with Generators under similar terms and conditions as outlined above.



*Illustration of the operation of the NEM*

# Implications of the Australian energy market

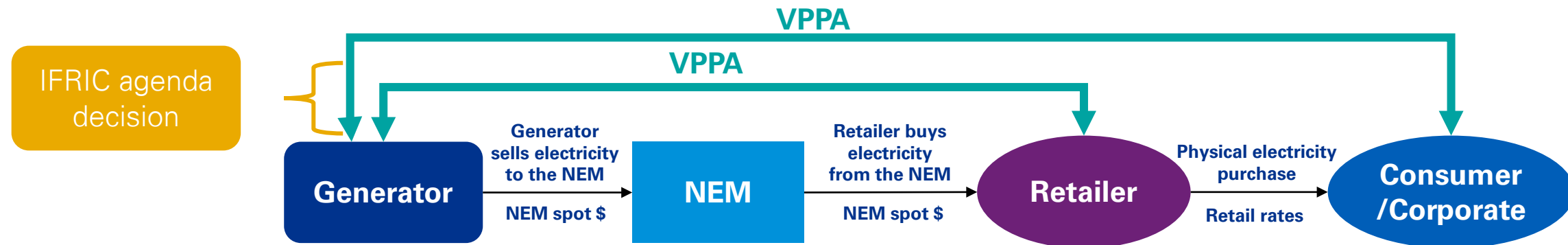
International standard setters have focussed on PPAs and in December 2021, the IFRS Interpretations Committee (IFRIC) finalised an agenda decision on the application of the lease definition to PPAs.

The IFRIC agenda decision is relevant to Corporates, Retailers and Generators which enter into VPPAs.

The IFRIC agenda decision clarifies that VPPAs which do not include a delivery of electricity do not contain leases. This is because the VPPA does not provide the Corporate / Retailer the right to electricity produced by the Generator's asset, therefore the VPPA would not contain a lease because the Corporate / Retailer does not have the right to substantially all of the economic benefits from use of the Generator's asset.

PPAs in Australia between Generators and Corporates / Retailers typically do not include the delivery of electricity, therefore these PPAs are unlikely to contain leases.

Further analysis is required to determine the appropriate accounting treatment for the electricity component of the VPPA and the LGCs. This analysis can be complex. Many PPAs contain derivative financial instruments.



*Illustration of the operation of the NEM*





# Accounting for Power Purchase Arrangements

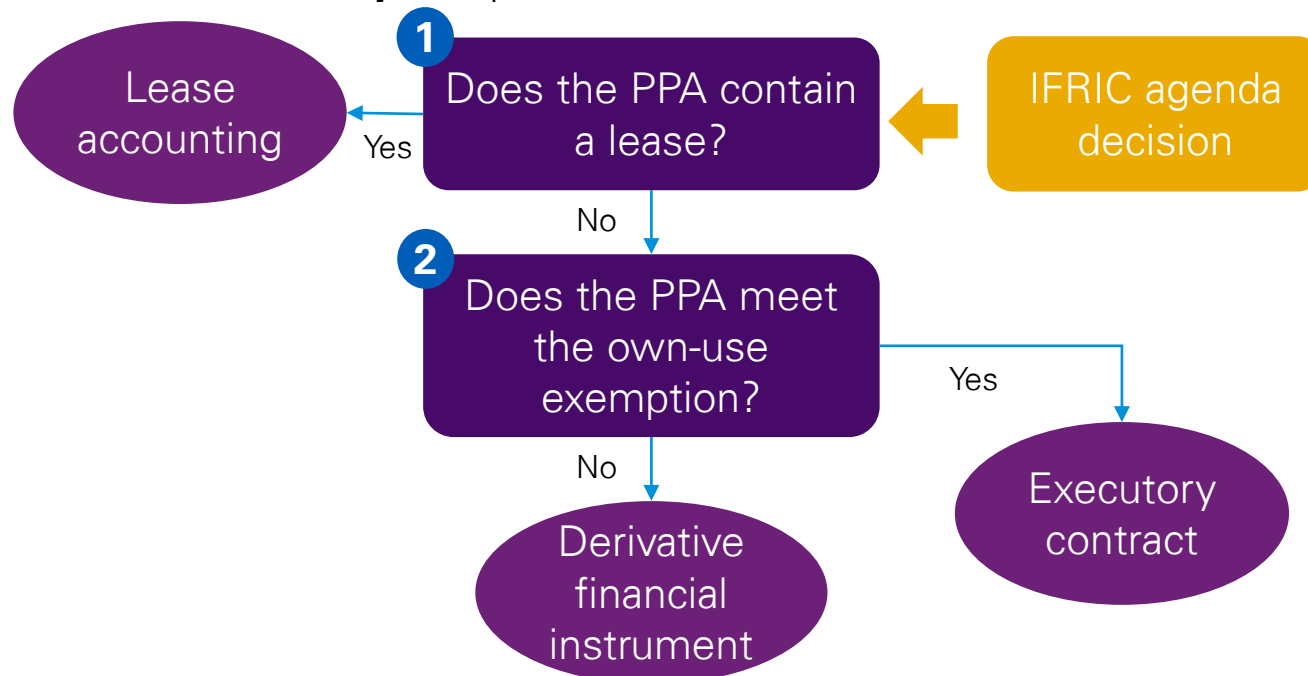


# Accounting for PPAs

A VPPA contains both an electricity component and purchase or sale of LGCs\*. These components are accounted for separately unless the contract is designated as a hybrid contract which is accounted for at fair value through profit or loss (FVTPL).

## Accounting for the electricity component

The steps below assist organisations to determine the accounting for the **electricity** component of the VPPA.



\*An alternative view is that a PPA contract is to acquire LGCs and that contract may include an embedded derivative for the electricity component.

**1 Does the VPPA contain a lease?** Consistent with the IFRIC agenda decision, a VPPA which does not give the customer the right to receive electricity produced by the Generator does not contain a lease.

**2 Does the VPPA meet the own-use exemption?** Contracts to buy and sell non-financial items, such as electricity, are accounted for as derivatives measured at FVTPL if the contract can be settled net in cash or another financial instrument, including if the non-financial item is readily convertible into cash.

There is an exemption from derivative accounting if the arrangement is for the entity's expected purchase, sale or usage requirements i.e. for its 'own-use'. In this case the arrangement is treated as an executory contract and recognised when goods and services are delivered /received. Alternatively an organisation can choose to designate the own-use contract at FVTPL.

The own-use exemption will not apply to VPPAs as there is no physical delivery of electricity under that contract.

If the electricity component of the VPPA does not contain a lease and does not meet the own-use exemption, it is accounted for as a derivative financial instrument at FVTPL.



# Accounting for PPAs

## Accounting for LGCs

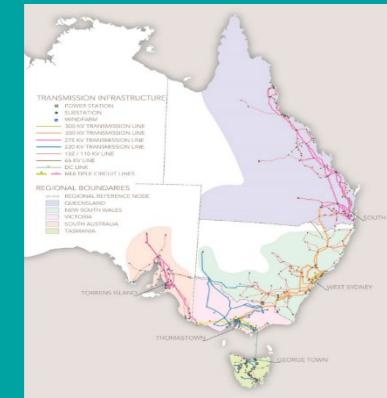
LGC are certificates that an organisation can use to offset its electricity consumption and meet its sustainability targets. The generator will provide the LGCs generated to the Corporate. Where LGCs are accounted for separately from the electricity component of a VPPA, the organisation selects an accounting policy based on their business model to account for the LGCs as either:

- 1) Inventory under AASB 102 *Inventories*, initially recognised at cost, subsequently measured at the lower of cost and NRV; or
- 2) Intangible assets under AASB 138 *Intangible Assets*, initially recognised at cost, subsequently measured at cost less impairment

## Allocation of consideration between the electricity component and LGCs

As a PPA contains both electricity and LGC components, the price agreed between the Corporate and the Generator (usually on per MWh) is allocated between the electricity component and the LGCs on a relative fair value basis at inception.

## Direct electricity supply from generator to customer



Notwithstanding much of the east coast of Australia sources electricity from the NEM, there are scenarios where electricity is supplied direct from the Generator to the customer. This is common with large scale operations in remote areas such as mine sites.

In these scenarios customers may obtain substantially all of the economic benefits from use from the electricity generation assets. Detailed analysis is required to assess whether these arrangements contain leases, before considering whether the own-use exemption can be applied or should the arrangement be accounted for as a derivative at FVTPL.

Similarly, Western Australia and the Northern Territory are not connected to the NEM and different accounting outcomes may be reached in these locations.





# Corporate Power Purchase Arrangement example

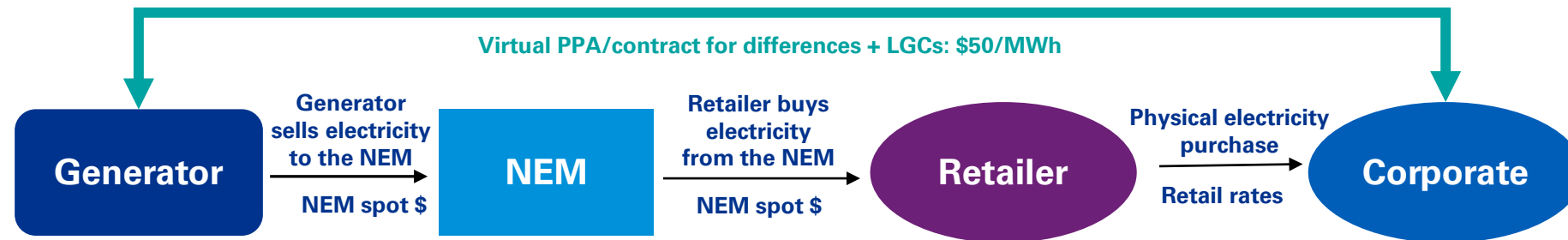


# Corporate PPA example

## Scenario:

Corporate X enters into a PPA with Generator Y for a term of 15 years. Y creates one LGC for every MWh generated by its solar plant. Under the terms of the PPA i) X and Y agree to make financial settlements based on the difference between an agreed fixed price of \$50/MWh and the spot price in the market based on 75% of power generated by the solar plant (expected to be approximately 165MW); and ii) X receives LGCs from Y.

X does not receive physical electricity from Y. X purchases electricity for physical delivery from Retailer Z at \$55/MWh fixed for one year before being reset annually. X has net-zero emissions targets and intends to use the LGCs to offset against its electricity consumption.



## Corporate scoping considerations :

How is the electricity component accounted for? As there is no delivery of electricity under the PPA, the electricity component is accounted for as a derivative financial instrument at FVTPL.

How are the LGCs accounted for? Consistent with its accounting policy, X accounts for LGCs as inventories.



# Corporate PPA example

## Allocation of consideration between the electricity derivative and LGCs

X allocates the \$50/MWh price across the electricity derivative and LGCs on a relative fair value basis at inception as follows:

- X uses forward curves for the NEM electricity prices and LGC prices to forecast out the total value of both components over the 15 year contract term.
- Based on the forward curves, X allocates \$40/MWh to the electricity derivative and \$10/MWh to the LGCs.

## Valuation of electricity derivative

X uses a discounted cash flow methodology to determine the fair value of the derivative in accordance with AASB 13 *Fair Value Measurement*. Key inputs into the valuation include forward NEM electricity price curves which are used to forecast future floating cash flows, estimated electricity generation and credit adjusted discount rates.

At inception of the contract, the transaction price equals the fair value, the fair value of the derivative contract is nil at inception. The valuation model is calibrated to ensure the day 1 fair value equals the transaction price of nil.

Financial settlements during the term of the arrangement based on the difference between the agreed fixed price of \$40/MWh and the NEM spot price are recognised against the electricity derivative asset or liability.

Changes in the fair value of the electricity derivative are recognised in the profit or loss.



# Corporate PPA example

## LGCs:

X recognises LGCs as inventories at a cost of \$10/MWh as they are acquired from Y. LGCs retired are recognised as part of operating expenses.

## Electricity purchase from the retailer:

X accounts for the electricity purchased from Retailer Z as an executory contract and recognises payables and expenses as electricity is supplied.

## How does entering into a VPPA contribute to meeting emissions reduction targets?

LGCs acquired through VPPAs are used to offset emissions associated with power consumption. Organisations should consider what other activities may be required to reduce other emissions produced by the organisation and value chain.

## How does entering a VPPA impact the electricity price risk exposure of a Corporate?

A VPPA exposes the customer to spot electricity price risk. This is because by entering into the VPPA, the Corporate is now exposed to the spot price of electricity (as it agrees to receive spot price electricity which is based on a 5 minute price interval (NEM market) and pay a fixed price – the net difference is settled in cash with the Generator, typically on a weekly cash settlement basis).

However, the Corporate's purchase of physical electricity from a Retailer is typically fixed for a period of time before being reset based on the (regulated) market price of electricity.

Therefore by entering into such a VPPA, the Corporate is now exposed to the volatility of the spot electricity prices which is fair valued and recognised in the profit or loss, with no mitigating financial effects.





# Accounting for energy credits





# Accounting for energy credits

There are a number of other energy credits which exist in Australia in addition to LGCs, including:

- Small-scale Technology Certificates (STCs); and
- Australian Carbon Credit Units (ACCUs)

**LGCs and STCs:** LGCs and STCs are renewable energy credits created by generators of renewable energy e.g. solar, wind and hydro powered power stations. LGCs and SGCs are used to offset electricity consumption. LGCs can be acquired through a PPA or on the secondary market. STCs can be acquired on the open STC market or through the STC clearing house.

**ACCUs:** The Emissions Reduction Fund (ERF) is a voluntary scheme that aims to reduce Australia's greenhouse gas emissions by providing incentives for the adoption of new practices and technologies to reduce emissions. Those participating in ERF projects e.g. reforestation/revegetation, alternative waste treatment, agricultural methods may earn ACCUs. ACCUs are eligible as offset units against carbon emissions. ACCUs can be sold to state and territory governments or in voluntary markets.

For all purchased energy credits, whether obtained as part of a PPA or otherwise, the organisation selects one of the following accounting policies based on their business model:

	Initial recognition	Subsequent measurement
Inventory		Lower of cost and NRV
Intangible Asset	Cost	Cost less impairment*

Energy credits are only measured at fair value less costs to sell where the organisation's business model includes actively trading the energy credits for profit.

Creators of energy credits, such as generators of renewable energy earning LGCs, apply government grant accounting upon earning energy credits. For-profit entities have an accounting policy choice under AASB 120 *Accounting for Government Grants and Disclosure of Government Assistance* to initially recognise the energy credit at cost or fair value. Not-for-profit organisations applying AASB 1058 *Income of Not-for-Profit Entities* are required to apply fair value accounting at initial recognition.

\*The AASB 138 revaluation model is generally not applicable as currently, LGCs are not actively traded in a deep and liquid market i.e. are not level 1 prices.





# Appendix: IFRIC agenda decision



# IFRIC agenda decision

In December 2021, IFRIC discussed whether a Retailer has the right to obtain substantially all the economic benefits from use of a windfarm throughout the term of a PPA with a Generator.

The specific facts associated with the agenda decision include:

- The Retailer and Generator are registered participants in an electricity market in which customers and suppliers cannot enter into contracts directly with each other for the purchase and sale of electricity. Instead, customers and suppliers make purchases and sales of electricity on the market's electricity grid at spot prices set by the market operator.
- The Retailer purchases electricity from the grid.
- The Retailer and Generator enter into an agreement to effectively fix the price at which electricity is bought and sold respectively whereby the Retailer and Generator settle any difference between the spot rate and the agreed price in cash. The Generator also agrees to transfer all renewable energy credits to the retailer.
- The economic benefits from use of the windfarm include the electricity it produces and the renewable energy credits.

**IFRIC clarified that based on the specific facts and circumstances discussed, the agreement between the Retailer and Generator does not give the Retailer the right to obtain substantially all the economic benefits from use of the windfarm throughout the period of the agreement because the retailer has no right to obtain any of the electricity the windfarm generates.**

This means that **there is no lease** over the windfarm because, amongst other criteria, a customer is required to have the right to obtain substantially all of the economic benefits from use of the windfarm throughout the period of use in order for there to be a lease.

# Get in touch

**If you have any questions, speak with your KPMG team.**

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