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ISCA Financial Reporting Bulletin 13

FRB 13:

Accounting for
Renewable Power Purchase Agreements (PPAs)
and Renewable Energy Certificates (RECs):
From the perspective of a buyer/holder

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The terms of reference are executed through FRC with the support of two Sub-Committees, namely the Core Sub-Committee and the Valuation Sub-Committee.

Important note:

- References made to the publicly available information (including relevant regulations on RECs in Singapore) are accurate as at the date of issuance of this FRB.
- This FRB also contains references to an Agenda Decision issued by the IFRS Interpretations Committee (IFRIC). Agenda Decisions include explanatory material to facilitate greater consistency in the application of International Financial Reporting Standards (IFRS Standards). The broad policy intention of the Accounting Standards Committee under the Accounting and Corporate Regulatory Authority (ACRA) is to adopt IFRS Standards as issued by the International Accounting Standards Board (IASB). Therefore, Agenda Decisions are relevant to entities reporting under SFRS(I). It should also be noted that while Agenda Decisions do not have effective dates, entities are expected to implement them in a timely manner if their accounting policies are inconsistent with an Agenda Decision.
- Although this FRB refers to various SFRS(I) standards, the guidance in this FRB is also applicable to entities applying Financial Reporting Standards issued by the Accounting Standards Committee.
- This FRB is not comprehensive and **does not address:**
 - all possible accounting considerations for all types of PPAs and RECs. The appropriate accounting treatment of each PPA and REC depends on the entity's facts and circumstances, as well as the terms and conditions attached to the PPA and REC in question.
 - hedging considerations as such transactions are highly dependent on the facts and circumstances, as well as the terms and conditions attached. It should be noted that in the Amendments to SFRS(I) 9 and SFRS(I) 7: Contracts Referencing Nature-dependent Electricity (effective 1 January 2026), changes to SFRS(I) 9 had been made to allow an entity designating a contract referencing nature-dependent electricity as a hedging instrument to designate a variable nominal amount of forecast electricity transaction as the hedged item if certain conditions are met.

In view of the above, significant judgement may be required, and auditors or professional advisors should be consulted as needed.

Executive Summary

With Singapore's push to achieve net-zero emissions by 2050, entities are encouraged to adopt sustainable practices such as the use of electricity from renewable sources. In doing so, more and more entities are entering into renewable power purchase agreements (PPAs) or purchasing renewable energy certificates (RECs). Questions have arisen about what PPAs and RECs are and the appropriate accounting treatment of PPAs and RECs.

To aid the buyers in PPAs in selecting the most appropriate accounting standard to apply, this FRB sets out the key considerations for the buyers. This FRB does not address the accounting for the suppliers in PPAs.

Singapore's electricity market¹

Singapore's electricity market is one where all electricity generated by licensed generators must be sent to the power grid (operated by SP Group) and be offered to the Singapore Wholesale Electricity Market (SWEM), administered by the Energy Market Company (EMC).

Electricity purchased from the power grid is typically consumed immediately. Only consumers with energy storage systems, for example battery devices, can store electricity.

Key stakeholders in Singapore's electricity market include:

- Energy Market Authority (EMA) – regulates electricity market in Singapore
- Power generation companies –generate and sell electricity in the wholesale electricity market
- EMC – operates and administers the SWEM
- Electricity retailers – buy electricity in bulk from the wholesale electricity market and sell electricity to consumers
- SP Services – provides services such as reading of electricity meters, management of meter data and facilitation of access to the wholesale electricity market
- SP PowerAssets – owns the power grid which delivers electricity throughout Singapore
- SP PowerGrid – builds and maintains the power grid

What is a PPA and REC?

A renewable PPA is a long-term contract between an entity (i.e. buyer) and a producer of renewable energy (i.e. seller) to have reliable access to renewable energy at a stable price level agreed by the two parties.² A PPA can be either a physical PPA or virtual PPA.

For a physical PPA, the buyer will receive the contracted renewable energy produced by the seller. For a virtual PPA (also known as contracts for differences), there is typically no 'physical' delivery of the contracted renewable energy and both parties will 'net settle' the differences between the spot/market price and the strike fixed price.

¹ <https://www.ema.gov.sg/our-energy-story/energy-market-landscape/electricity>

² We understand that PPAs may be used for energy from non-renewable sources. This FRB focuses on PPAs that are used for energy from renewable sources.

A REC is a verifiable instrument that represents one megawatt-hour (MWh) of electricity generated from a renewable energy resource. RECs can be purchased (and sold) on a stand-alone basis or together with the related renewable energy. A REC can be held for an entity's own use, traded or retired.³

As mentioned above, a REC may be purchased (and sold) together with the related renewable energy. This can apply to both physical PPA and virtual PPA. [Note: For RECs that are bundled together with PPAs, the entity will need to first unbundle/split the REC from the PPA and account for each component separately. This process requires significant judgement, as it depends on facts and circumstances, including terms agreed between the contracting parties. Hence, this FRB does not provide guidance on how to unbundle the components.]

In Singapore, the Singapore Standards Council and Enterprise Singapore, together with the National Environment Agency, and Energy Market Authority, introduced the [Singapore Standard \(SS\) 673: Code of Practice for Renewable Energy Certificates \(RECs\)](#) in 2021. This standard aims to improve the integrity of measurement, reporting and verification requirements for the issuance and management of RECs.

Accounting for PPAs

Under SFRS(I)s, there is currently no specific accounting standard or interpretation that directly addresses the accounting for PPAs and RECs. The appropriate treatment depends on the specific terms attached to each PPA and REC and the entity's facts and circumstances.

To aid the buyers in PPAs in selecting the most appropriate accounting standard to apply, this FRB sets out the key considerations for the buyers. This FRB does not address the accounting for the suppliers in PPAs.

PPAs can be either physical or virtual.

Physical PPA

- A physical PPA needs to be assessed to determine if it provides for control (SFRS(I) 10 *Consolidated Financial Statements*), joint control (SFRS(I) 11 *Joint Arrangements*) or significant influence (SFRS(I) 1-28 *Investments in Associates and Joint Ventures*) by the buyer over the supplier/producer.
- If it does not, it should be assessed whether it is or contains a lease (SFRS(I) 16 *Leases*).
- If it is not or does not, it should be assessed whether the 'own use' criterion is met.
- If it is not, the physical PPA is accounted for as a derivative under SFRS(I) 9.

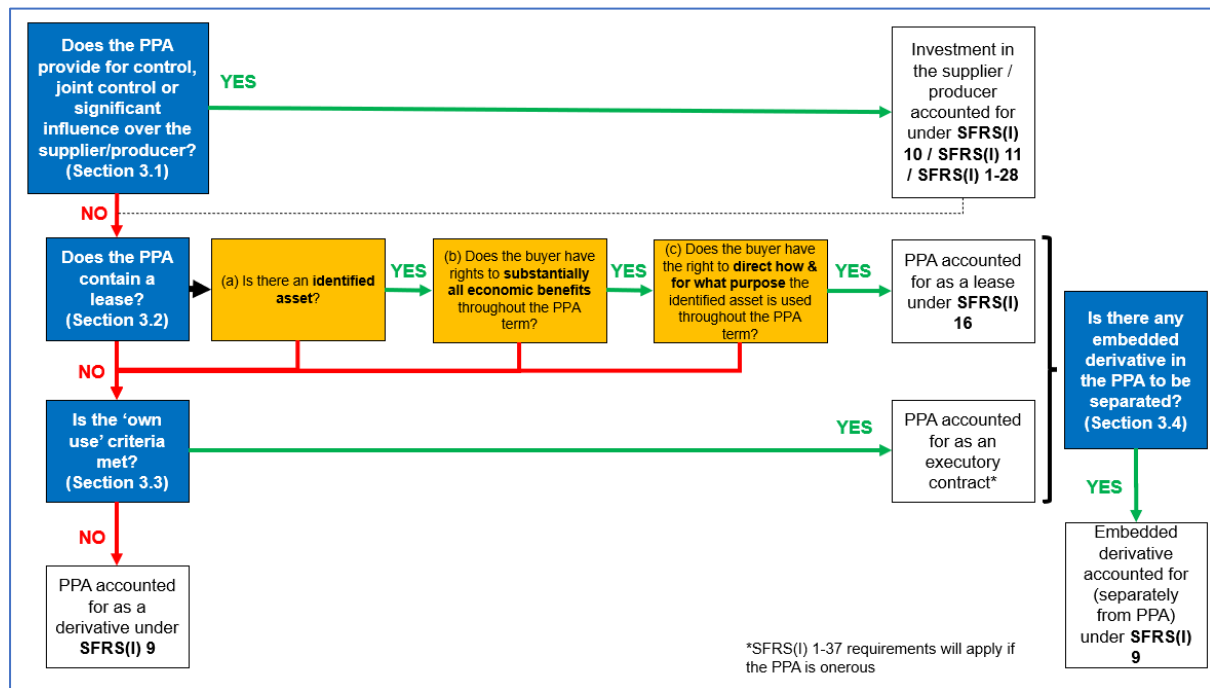
If the answer to any of the above questions is 'yes', the physical PPA is accounted for in the manners indicated in the flowchart below.

Regardless of whether the buyer has control, joint control or significant influence over the energy supplier, the buyer still needs to assess whether it should account for the PPA as a lease (or one that contains a lease), an executory contract or a derivative contract (or one that contains an embedded derivative).

Virtual PPA

- A virtual PPA is accounted for as a derivative under SFRS(I) 9 *Financial Instruments* as there is no 'physical' delivery of the contracted renewable energy.

³ A REC is retired when it has been used by an entity as a proof to make a claim of green energy use. Once retired, the same REC is not available for sale to another party to make the same claim. This is to avoid double-counting.



Accounting for RECs

The accounting considerations for RECs are similar to those for the accounting of carbon credits which are covered in FRB 11 *Accounting for Carbon Credits: From the perspective of a buyer/holder*, specifically on the classification as inventory or intangible asset, and considerations relating to impairment, fair value and current vs non-current presentation.

To reiterate, the appropriate accounting treatment varies depending on factors such as terms and conditions attached to each PPA and REC and the entity's facts and circumstances. It is, therefore, imperative for the entity to have a full understanding of the contract/arrangement as well as the PPA and REC in question to identify the most appropriate accounting standard to apply. Sufficient disclosures are to be made in the financial statements in relation to such contracts/arrangements.

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1. Background

To achieve net-zero emissions by 2050, the Singapore government has embarked on various strategies such as implementing the carbon tax regime and encouraging entities to adopt sustainable practices to reduce their carbon footprint. An example of sustainable practices is to use electricity from renewable sources like solar, wind or hydro power. More and more entities have done so by entering into renewable PPAs or RECs.

1.1 What is the issue?

Questions have arisen regarding the accounting for PPAs and RECs. Under SFRS(I)s, there is currently no specific accounting standard or interpretation that directly addresses the accounting for PPAs and RECs. The appropriate accounting treatment depends on the specific terms attached to each PPA and REC and the entity's facts and circumstances.

1.2 Purpose and scope of this FRB

ISCA, through its Financial Reporting Committee, is issuing this FRB to aid entities in understanding what PPAs and RECs are, and the key considerations that the entity should have in selecting the most appropriate accounting standard under SFRS(I) to apply in accounting for PPAs and RECs.

2. PPAs and RECs

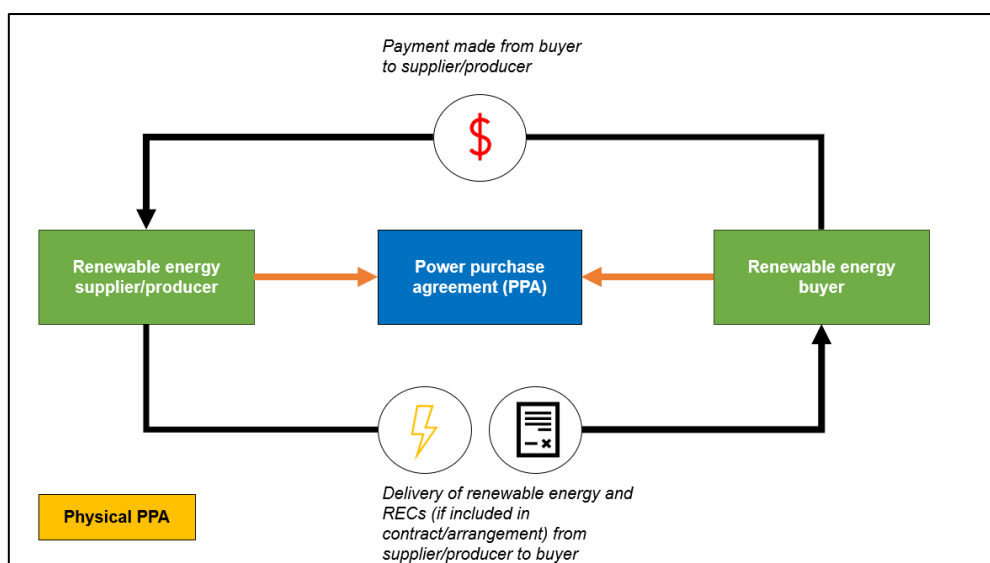
2.1 What is a power purchase agreement (PPA)?

A renewable PPA is a long-term contract between an entity (i.e. buyer) and a producer of renewable energy (i.e. seller) to have reliable access to the benefits of renewable energy at a stable price level agreed by the two parties.⁴

A PPA can be either a physical PPA or virtual PPA. For a physical PPA, the buyer will receive the contracted renewable energy produced by the seller. For a virtual PPA (also known as contracts for differences)⁵, there is typically no 'physical' delivery of the contracted renewable energy and both parties will 'net settle' the differences between the spot/market price and the strike fixed price.

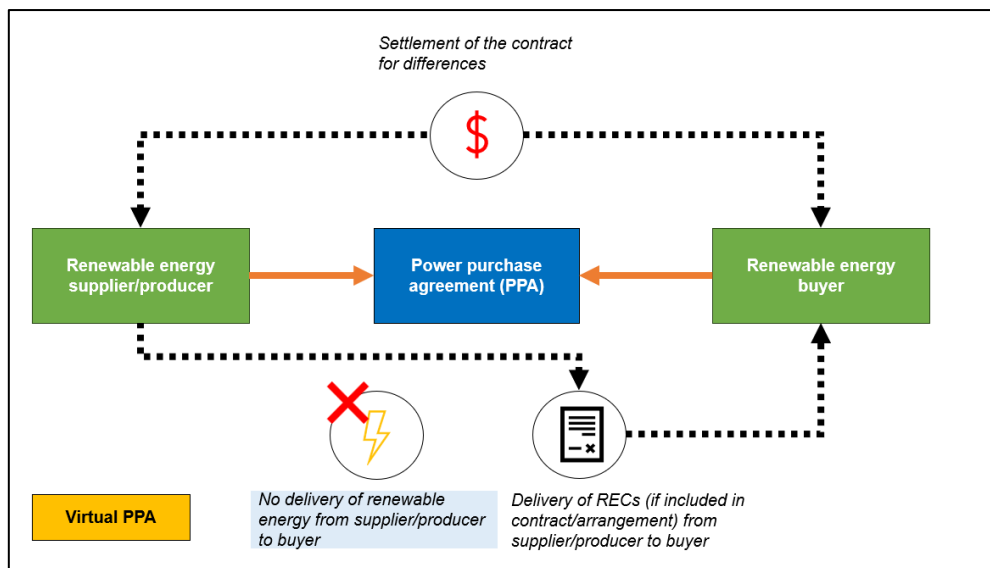
A REC (see **Section 4**) may be purchased (and sold) together with the related renewable energy. This can apply to both physical PPA and virtual PPA.

This FRB does not provide guidance on how to unbundle the components.



⁴ We understand that PPAs may be used for energy from non-renewable sources. This FRB focuses on PPAs that are used for energy from renewable sources.

⁵ The renewable energy supplier/producer and the renewable energy buyer agree in advance on a fixed price (i.e. the 'strike price' - a term used in a virtual PPA to denote the contracted price, as opposed to the 'strike price' in an option contract) for the electricity generated for a specified number of years. At the date settlement (frequency can be monthly or quarterly), if the spot/market price is below the fixed price, the supplier/producer receives from the buyer the difference in price. If the spot/market price is above the fixed price, the supplier/producer pays the buyer the difference in price.



2.2 What is a renewable energy certificate (REC)?

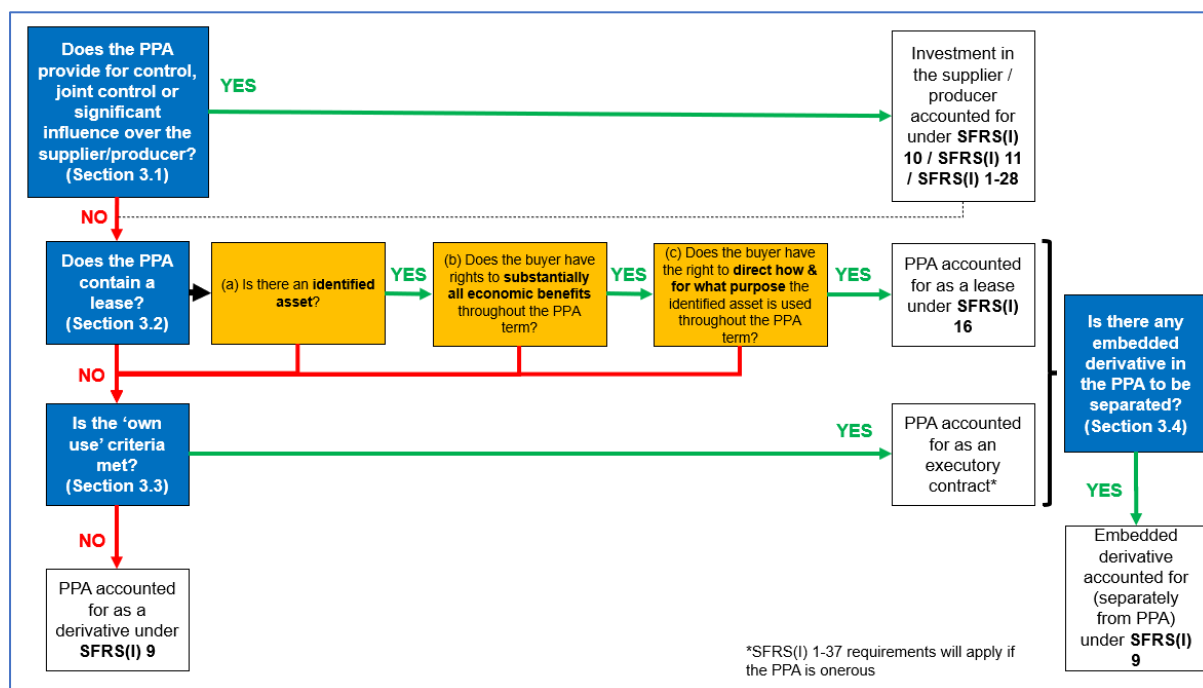
A REC is a verifiable instrument that represents one megawatt-hour (MWh) of electricity generated from a renewable energy resource. RECs can be purchased (and sold) on a stand-alone basis or together with the related renewable energy. A REC can be held for an entity's own use (i.e. to offset the entity's energy consumption from non-renewable sources), traded or retired (i.e. once a REC is utilised, it is removed from circulation and cannot be sold or used again).

In 2021, the Singapore Standards Council and Enterprise Singapore, together with the National Environment Agency, and Energy Market Authority, introduced the [Singapore Standard \(SS\) 673: Code of Practice for Renewable Energy Certificates](#). This standard aims to improve the integrity of measurement, reporting and verification requirements for the issuance and management of RECs.

3. Accounting considerations for PPAs

Physical PPA

For a physical PPA, the below flowchart provides an overview of the considerations that are relevant in the entity's assessment of the appropriate accounting treatment. For simplicity, the 'physical PPAs' will be referred to as 'PPA' in Sections 3.1 to 3.4.



3.1 Does the PPA provide for control, joint control or significant influence over the supplier/producer?

A renewable energy supplier/producer may put an energy project (e.g. a solar farm) as a separate legal entity. An entity (i.e. the renewable energy buyer) entering in a PPA should consider whether the counterparty to the PPA (i.e. the legal entity) is an entity which it controls or has significant influence or joint control over. If the buyer is exposed, or has rights, to variable returns from that legal entity, the buyer's relationship with that legal entity needs to be carefully assessed to determine if the buyer has power over the relevant activities.

If the buyer determines that it has control over the legal entity, the buyer will consolidate the legal entity in accordance with the requirements in SFRS(I) 10 *Consolidated Financial Statements*.

If the buyer determines that it has joint control or significant influence over the legal entity, the buyer will account for the legal entity in accordance with the requirements in SFRS(I) 11 *Joint Arrangements* and SFRS(I) 1-28 *Investments in Associates and Joint Ventures* respectively.

Regardless of whether the buyer has control, joint control or significant influence over the energy supplier, the buyer still needs to assess whether it should account for the PPA as a lease (or one that contains a lease), an executory contract or a derivative contract (or one that contains an embedded derivative), as discussed in Sections 3.2 to 3.4.

3.2 Is the PPA a lease or does it contain a lease?

Under SFRS(I) 16 *Leases*, a lease is a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration.⁶ To determine this, entities need to consider the following questions:

(a) Is there an identified asset?

The 'identified asset' can either be explicitly specified in the contract (e.g. the PPA specifies a particular solar farm that will be used to satisfy the contractual obligations) or implicitly specified at the time that the asset is made available for use by the customer (e.g. the green energy supplier/producer has one solar farm and no alternative solar farm which can be used to satisfy the contractual obligations).⁷

Substantive substitution right

There is no identified asset if the supplier has the substantive right to substitute the asset throughout the period of use. The substitution right is substantive only if both of the following conditions exist:⁸

- The supplier has the practical ability to substitute alternative assets throughout the period of use (e.g. the customer cannot prevent the supplier from substituting the asset and alternative assets are readily available to the supplier or could be sourced by the supplier within a reasonable period of time); and
- The supplier will benefit economically from the exercise of its right to substitute the asset (i.e. the economic benefits associated with substituting the asset are expected to exceed the costs associated with substituting the asset).

Portions of assets

A capacity portion of an asset is an identified asset if it is physically distinct (e.g. which turbines or parts of the windfarm are allocated to the specific customer). A capacity or other portion of an asset (e.g. X% of the electricity generated from a windfarm) that is not physically distinct is not an identified asset unless it represents substantially all of the capacity of the asset and thereby provides the customer with the right to obtain substantially all of the economic benefits from use of the asset.⁹

(b) Does the buyer have the right to obtain substantially all the economic benefits throughout the PPA term?

To control the use of an identified asset, the entity (i.e. customer) is required to have the right to obtain substantially all of the economic benefits from use of the identified asset throughout the period of use. Economic benefits include its primary output (e.g. electricity) and by-products (e.g. RECs generated from the solar farm), and other economic benefits from using the asset.¹⁰

⁶ Appendix A of SFRS(I) 16.

⁷ Paragraph B13 of SFRS(I) 16.

⁸ Paragraph B14 of SFRS(I) 16.

⁹ Paragraph B20 of SFRS(I) 16.

¹⁰ Paragraph B21 of SFRS(I) 16.

IFRIC's Agenda Decision

In November 2021, the IFRS Interpretations Committee (IFRIC) issued an Agenda Decision¹¹ on whether a PPA in a 'gross pool' electricity market¹² is, or contains, a lease as defined in IFRS 16. The focus is on the application of paragraph B9(a) of IFRS 16 – whether the electricity retailer (i.e., the buyer in the PPA) has the right to obtain substantially all the economic benefits from use of a windfarm throughout the contract term.

Key facts and conclusion

Based on the fact pattern set out in the Agenda Decision, IFRIC noted that:

- The economic benefits from the use of the windfarm include the electricity it produces (as its primary output) and the renewable energy credits (as a by-product or other economic benefit from use of the windfarm).
- The agreement results in the retailer settling with the supplier the difference between the fixed price and the spot prices per megawatt of electricity the windfarm supplies to the grid throughout the 20-year term of the agreement.
- However, the agreement conveys neither the right nor the obligation for the retailer to obtain any of the electricity the windfarm produces and supplies to the grid. Although the retailer has the right to obtain the renewable energy credits (which represent a portion, and not substantially all, of the economic benefits from use of the windfarm).

Therefore, IFRIC concluded that the agreement does not contain a lease on the basis that the retailer does not have the right to obtain substantially all the economic benefits from use of the windfarm. More details of the IFRIC's agenda decision are provided in Appendix A.

(c) Does the buyer have the right to direct how and for what purpose the identified asset is used throughout the PPA term?

In assessing whether the buyer has the right to direct how and for what purpose the asset is used throughout the period of use, the buyer considers the relevant decision-making rights it has (i.e. rights that affect the economic benefits to be derived from using the asset). The decision-making rights that are most relevant are likely to be different for different contracts, depending on the nature of the asset and the terms and conditions of the contract.¹³

Examples of decision-making rights include:¹⁴

- Rights to change when the output is produced
- Rights to change where the output is produced
- Rights to change whether the output is produced, and the quantity of that output

¹¹ IFRIC Agenda Decision *Economic Benefits from Use of a Windfarm* [\[link\]](#) – Reproduced in Appendix A of this FRB for easy reference.

¹² For example, Singapore's wholesale electricity market is a gross pool electricity market centrally administered by the Energy Market Company.

¹³ Paragraph B25 of SFRS(I) 16.

¹⁴ Paragraph B26 of SFRS(I) 16.

Examples of decision-making rights that do not grant the right to change how and for what purpose the asset is used include rights that are limited to operating and maintaining the asset.¹⁵ In addition, rights for the supplier/customer to inspect the facilities to ensure proper operation and maintenance are considered protective rights and not decision-making rights.

In making the above assessment, the entity considers only relevant decision-making rights occurring throughout the period of use unless the entity has designed the asset (or specific aspects of the asset) in a way that predetermines how and for what purpose the asset will be used throughout the period of use.¹⁶

For further guidance, the entity may wish to consider Example 9 (Contract for energy/power) in SFRS(I) 16's implementation guidance (SFRS(I) 16 – *Illustrative Examples*) on the evaluation of whether a customer designed the asset in a way that predetermines how and for what purpose the asset will be used throughout the period of use.

Illustrative example 1 – PPA is a lease or contains a lease

Fact pattern:

- 15-year physical PPA, with solar panels constructed by the supplier on the buyer's rooftop (i.e. solar facility).
- Buyer has the right to purchase the electricity generated from the solar facility and all RECs provided.
- Annual fixed payment for capacity at \$10k/year and a variable rate of \$0.03/MWh for electricity and RECs delivered.
- Supplier operates and owns the rooftop solar facility
- Buyer participated in the design of the solar facility including the selection of equipment and the determination of generation capacity and battery system.
- Supplier has no substitution rights and any replacement of the equipment requires the agreement of the buyer.
- Buyer must approve all maintenance plans and modifications to the solar facility and retains a first right of refusal on any additional capacity resulting from future modifications during the term of the PPA.

Question: Is the above PPA a lease or contains a lease?

Assessment:

- The solar facility is a specified asset in the PPA that conveys the buyer the right to control the use of the asset for majority of economic benefits during the term of the PPA.
- Buyer participates in the equipment selection and determination of the generation and storage capacity.
- Buyer retains production rights and approval rights for maintenance and modification plans.
- Buyer is deemed to have the right to direct the use of the specified solar facility during the term of the PPA.

Conclusion: The PPA is a lease or contains a lease and is accounted for under SFRS(I) 16.

¹⁵ Paragraph B27 of SFRS(I) 16.

¹⁶ Paragraph B29 of SFRS(I) 16.

3.3 Is the 'own use' criterion met?

The buyer needs to consider whether the PPA is entered into, and continues to be held, for the purpose of receipt or delivery of renewable energy for the entity's expected purchase, sale or usage requirements (own-use criterion).¹⁷

Generally, the existence of the following conditions will prevent the own-use criterion from being satisfied:

- When the ability to settle net is not explicit in the terms of the contract, but the entity has a practice of settling similar contracts net (whether with the counterparty, by entering into offsetting contracts or by selling the contract before its exercise or lapse).¹⁸
- When, for similar contracts, the entity has a practice of taking delivery of the underlying and selling it within a short period after delivery for the purpose of generating a profit from short-term fluctuations in price or dealer's margin.¹⁹

If the own-use criterion is not met, the PPA is accounted for as a derivative under SFRS(I) 9 and measured at fair value through profit or loss unless it qualifies as a hedging instrument in an effective hedging relationship.²⁰ **It should be noted that hedging can be complex and is not covered in this publication. Entities should consult their auditors and professional advisors if necessary.**

If the own-use criterion is met, the PPA is accounted for as an executory contract.²¹ Executory contracts where both parties have yet to perform (e.g. a purchase order where neither delivery nor payment has taken place), there is no recognition of assets or liabilities unless the contract is onerous and SFRS(I) 1-37 *Provisions, Contingent Liabilities and Contingent Assets* is applicable. However, the entity may elect to account for the PPA at fair value under SFRS(I) 9 at inception if this eliminates or significantly reduces an accounting mismatch.

In practice, it may not be always clear whether an entity that purchases renewable energy through a PPA can meet the own-use criterion. The challenge arises as the renewable energy production is dependent on nature and PPAs typically require buyers to take and pay for whatever quantity of renewable energy produced, even if that quantity exceeds the buyer's needs at the time of production.²²

¹⁷ Paragraph 2.4 of SFRS(I) 9 – Contracts entered into and continue to be held for the purpose of the receipt or delivery of a non-financial item in accordance with the entity's expected purchase, sale or usage requirements ('own use' exemption).

¹⁸ Paragraph 2.6(b) of SFRS(I) 9.

¹⁹ Paragraph 2.6(c) of SFRS(I) 9.

²⁰ It should be noted that in the Amendments to SFRS(I) 9 and SFRS(I) 7: Contracts Referencing Nature-dependent Electricity (effective 1 January 2026), changes to SFRS(I) 9 had been made to permit hedge accounting for contracts referencing nature-dependent electricity, allowing them to be used as hedging instruments if certain conditions are met.

²¹ Paragraph 4.56 of the SFRS(I) *Conceptual Framework for Financial Reporting* defines an executory contract to be "a contract, or a portion of a contract, that is equally unperformed—neither party has fulfilled any of its obligations, or both parties have partially fulfilled their obligations to an equal extent."

²² IASB's Exposure Draft – Contracts for Renewable Electricity.

For annual reporting periods beginning on or after 1 January 2026

(i) New application guidance for contracts referencing nature-dependent electricity

To address the above, SFRS(I) 9 *Financial Instruments* has been amended to include specific application guidance for contracts referencing nature-dependent electricity. Under the guidance, an entity needs to assess whether the following two conditions are met:²³

- (i) the contract requires the entity to buy and take delivery of the electricity when it is generated; and
- (ii) the design and operation of the market in which the entity receives electricity under the contract requires the entity to sell any amounts of unused electricity within a specified time.

If both conditions are met, the sales of unused electricity are not necessarily inconsistent with the entity's expected usage requirements. The contract continues to meet the own-use criterion if the entity has been, and expects to be, a net purchaser of electricity over the contract period. An entity is a net purchaser of electricity if it buys more electricity from the grid than it sells unused electricity to the same grid over the contract period.

(ii) New disclosure requirements

If an entity meets the own-use criterion and account for a PPA as an executory contract, it recognises purchases of electricity upon delivery but not the future purchase commitments under the PPA. Hence, SFRS(I) 7 *Financial Instruments: Disclosures* has been amended to require the further disclosures such as:²⁴

- contractual features that expose the entity to variability in underlying amount of electricity and risk of it being required to buy electricity which it cannot use during the delivery interval;
- unrecognised contractual commitments, including estimated future cash flows to buy electricity, and qualitative information about how the entity assessed whether a contract might become onerous; and
- qualitative and quantitative information about the costs and proceeds associated with purchases and sales of electricity, based on the information that is used by the entity to assess whether it has been a net purchaser of electricity.

The new application guidance and new disclosure requirements:

- are to be applied retrospectively using facts and circumstances at the beginning of the reporting period of initial application. The entity is not required to restate its financial statements of prior periods.
- are effective for annual reporting periods beginning on or after 1 January 2026, with early application permitted.

²³ Paragraph B2.7 of SFRS(I) 9.

²⁴ Paragraph 30A of SFRS(I) 7.

Additional disclosure considerations for PPAs which meet the 'own use' criterion before the effective date of the above amendments

The entity should consider providing additional quantitative and qualitative information necessary for a user's understanding of the PPA. It should also adhere to the following requirements under SFRS(I) 1-1 and SFRS(I) 7:

- Additional disclosures when compliance with specific IFRS Standards is insufficient for an understanding of the financial statements [paragraphs 17(c) and 31 of SFRS(I) 1-1]
- Information not presented elsewhere, but that is necessary for an understanding of the financial statements [paragraph 112(c) of SFRS(I) 1-1]
- Summary quantitative data on the impact of the contract on liquidity risk for financial liabilities, to the extent that such information is provided to key management personnel [paragraphs 34(a) and B10A of SFRS(I) 7]
- Disclosures required by paragraph 25 of SFRS(I) 1-1, to the extent that liquidity risk rises to the level of material uncertainties related to events or conditions that might cast significant doubt on the entity's ability to continue as a going concern.

3.4 Is there any embedded derivative in the PPA to be separated?

A PPA may contain terms and conditions that 'behave' like a free-standing derivative. SFRS(I) 9 requires such embedded derivatives to be separated from the host PPA and accounted for as a derivative under SFRS(I) 9 if and only if:²⁵

- the economic characteristics and risks of the embedded derivative are not 'closely related' to the economic characteristics and risks of the host;
- a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and
- the hybrid contract is not measured at fair value through profit or loss.

Examples of embedded derivatives include pricing of the energy based on a specified index, rate or price, cap or floor on the energy price and leverage features which modify the contractual cash flows when there are changes in energy prices or index.

Despite the above requirement for separating an embedded derivative from the host PPA, the entity can elect to account for the hybrid contract (i.e. host PPA with one or more embedded derivatives) in its entirety at fair value through profit or loss.²⁶

Is the embedded derivative closely related to the host PPA?

SFRS(I) 9 does not contain a specific definition of 'closely related' but the standard contains examples of:

- embedded derivatives which are not closely related to the host contract (see paragraph B4.3.5 and B4.3.6 of SFRS(I) 9)
- embedded derivatives which are closely related to the host contract (see paragraph B4.3.8 of SFRS(I) 9).

²⁵ Paragraph 4.3.3 of SFRS(I) 9 requires separation of the embedded derivative from the host if the host is not a financial asset within the scope of SFRS(I) 9.

²⁶ Paragraph 4.3.5 of SFRS(I) 9.

If the embedded derivative is not closely related to the host PPA, it has to be accounted for separately under SFRS(I) 9 unless the entity elects to account for the hybrid contract in its entirety at fair value through profit or loss. This would be an unlikely election in practice as a PPA is usually a long-term contract that is too complex to re-measure at fair value.

If the embedded derivative is closely related to the host PPA, it need not be separately accounted for.

3.5 Accounting considerations for virtual PPAs under SFRS(I) 9

Virtual PPA

As stated in **Section 2.1**, in a virtual PPA, the renewable energy supplier/producer and the buyer will settle the difference between spot/market price and the fixed price. There is no 'physical' delivery of the renewable energy and both parties will 'net settle' the differences between the spot/market price and the fixed price. Therefore, a virtual PPA is accounted for as a derivative under SFRS(I) 9 *Financial Instruments*.

Illustrative example 2 – PPA is a derivative

Fact pattern:

- Supplier designs, constructs and operates a solar energy facility
- Buyer is allocated 50% of the solar energy facility's capacity
- Contract price - \$150/MWh during any settlement interval
- For each half hour interval, the settlement amount is the share of the actual power at the prevailing wholesale market price less the same quantity at \$150/MWh
- If the above is negative, the buyer will pay the supplier
- If the above is positive, the supplier will pay the buyer
- Supplier warrants that the solar energy facility will have a mechanical availability of no less than 90% during each year of the term of the PPA. If not, the supplier must pay the buyer liquidated damages.

Question: Is the above PPA a derivative?

Assessment:

- As Buyer is only contracting for 50% of the capacity of the solar energy facility, the PPA is not a lease
- There is no 'physical' delivery of electricity
- As the PPA is net cash settled, it does not qualify for classification as own-use
- Fair value of the PPA will change in response to changes in market power prices

Conclusion: The PPA is a derivative and is accounted for under SFRS(I) 9.

Host contract determination

In practice, entities enter into virtual PPAs which also provide for delivery of RECs. Hence, such virtual PPAs should be carefully assessed for the host contract and embedded derivatives.

The entity also needs to assess if there is any embedded derivative in the host contract which needs to be separated (see **Section 3.4**).

If the host contract is for the purchase of RECs (as in the case of a virtual PPA), it needs to be assessed whether it qualifies for own-use criterion (see **Section 3.3**). However, if the entity is trading in RECs (i.e. purchasing RECs and reselling them on short-term basis or otherwise net settling in cash), that host contract is unlikely to meet the own-use criterion and needs to be accounted for as a derivative under SFRS(I) 9.

4. Accounting considerations for RECs

A REC can be purchased (and sold) on a stand-alone basis or together with the related renewable energy such as in a physical/virtual PPA. In that case, the entity (i.e. the buyer) needs to allocate the purchase price between the renewable energy and the RECs.

The accounting considerations for RECs are similar to those for the accounting of carbon credits which are covered in [FRB 11 Accounting for Carbon Credits: From the perspective of a buyer / holder](#), specifically:

1. Classification of the REC as inventory or an intangible asset (see **Section 3.2** of FRB 11)
2. Impairment considerations (for RECs which are accounted for as intangible assets) (see **Section 3.3** of FRB 11)
3. Fair value considerations (see **Section 3.4** of FRB 11)
4. Current vs non-current presentation considerations (**Section 3.5** of FRB 11)

Appendix A – IFRIC Agenda Decision

Economic Benefits from Use of a Windfarm (IFRS 16 Leases)

The Committee received a request about whether, applying paragraph B9(a) of IFRS 16, an electricity retailer (retailer) has the right to obtain substantially all the economic benefits from use of a windfarm throughout the term of an agreement with a windfarm generator (supplier). In the fact pattern described in the request:

- a. the retailer and supplier are registered participants in an electricity market, in which customers and suppliers are unable to enter into contracts directly with each other for the purchase and sale of electricity. Instead, customers and suppliers make such purchases and sales via the market's electricity grid, the spot price for which is set by the market operator. The retailer therefore purchases electricity from the grid.
- b. the retailer enters into an agreement with the supplier. The agreement:
 - (i) swaps the spot price per megawatt of electricity the windfarm supplies to the grid during the 20-year term of the agreement for a fixed price per megawatt, and is settled net in cash. In effect, the supplier receives a fixed price per megawatt for the electricity it supplies to the grid during the period of the agreement and the retailer settles with the supplier the difference between that fixed price and the spot prices per megawatt for that volume of electricity.
 - (ii) transfers to the retailer all renewable energy credits that accrue from use of the windfarm.

Paragraph 9 of IFRS 16 states that 'a contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration'. To control the use of an identified asset for a period of time, the customer—throughout the period of use—must have both the right to obtain substantially all the economic benefits from use of the identified asset and the right to direct the use of that asset (paragraph B9 of IFRS 16).

Paragraph B21 of IFRS 16 specifies that 'a customer can obtain economic benefits from use of an asset directly or indirectly in many ways, such as by using, holding or sub-leasing the asset. The economic benefits from use of an asset include its primary output and by-products (including potential cash flows derived from these items), and other economic benefits from using the asset that could be realised from a commercial transaction with a third party'.

The Committee observed that, in the fact pattern described in the request, the economic benefits from use of the windfarm include the electricity it produces (as its primary output) and the renewable energy credits (as a by-product or other economic benefit from use of the windfarm).

The agreement results in the retailer settling with the supplier the difference between the fixed price and the spot prices per megawatt of electricity the windfarm supplies to the grid throughout the 20-year term of the agreement. That agreement, however, conveys neither the right nor the obligation for the retailer to obtain any of the electricity the windfarm produces and supplies to the grid. Although the retailer has the right to obtain the renewable energy credits (which represent a portion of the economic benefits from use of the windfarm), the retailer does not have the right to obtain substantially all the economic benefits from use of the windfarm because it has no right to obtain any of the electricity the windfarm produces throughout the period of the agreement.

The Committee therefore concluded that, in the fact pattern described in the request, the retailer does not have the right to obtain substantially all the economic benefits from use of the windfarm. Consequently, the agreement does not contain a lease.

The Committee concluded that the principles and requirements in IFRS Standards provide an adequate basis for an entity that enters into an agreement as described in the request to assess whether it has the right to obtain substantially all the economic benefits from use of an identified asset. Consequently, the Committee decided not to add a standard-setting project to the work plan.

In considering the request, the Committee noted two other agenda decisions that include explanatory material that may be relevant to the agreement described in this request:

- a. the Agenda Decision Meaning of delivery (IFRS 9 *Financial Instruments*) (August 2005); and
- b. for entities applying the hedge accounting requirements in IFRS 9 or IAS 39 *Financial Instruments: Recognition and Measurement*, the Agenda Decision *Application of the Highly Probable Requirement when a Specific Derivative is Designated as a Hedging Instrument* (IFRS 9 and IAS 39) (March 2019).

For reference: ISCA Financial Reporting Codification Framework

In November 2019, ISCA issued the ISCA Financial Reporting Codification Framework (Framework). The Framework establishes a formalised categorisation, degrees of authority and a due process for future issuance of ISCA's technical documents. It provides credence to ISCA's technical content, promulgates ISCA's views on the application of accounting standards as well as promotes quality, consistency and best practices in financial reporting.

The Framework is summarised in the table below.

Category	Nature	Degree of authority	Due Process	Highest level of approval
1. Financial Reporting Practice (FRP)	Recommended best practices for financial reporting for specific industries, sectors or transactions	Expected to apply	Public consultation required	ISCA Council
2. Financial Reporting Guidance (FRG)	Technical guidance, views and insights on specific financial reporting issues for specific industries, sectors or transactions	Expected to follow or explain departures	Public consultation required	ISCA Financial Reporting Committee (FRC), with authority delegated by the ISCA Council
3. Financial Reporting Bulletin (FRB)	Technical bulletin containing discussions and highlight of emerging topical financial reporting issues	For information and educational purposes	Public consultation not required	ISCA FRC

For more details on the Framework and the guidance issued under the Framework, please refer to the following:

- Framework [\[link\]](#)
- FRG [\[link\]](#)
- FRB [\[link\]](#)

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