IFRS accounting outline for POWER PURCHASE AGREEMENTS

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Content

1. Introduction

As part of their sustainability strategies, companies across the globe are entering into power purchase agreements (PPAs) with renewable energy generators. This paper aims to help address issues surrounding accounting for corporate renewable PPAs.

Companies across the globe are evaluating their impact on the environment. As part of their sustainability strategies, they are striving to reduce their greenhouse gas emissions. Because technology is evolving and renewable energy is becoming more cost competitive, the decarbonization of electricity is an achievable goal.

One way to buy renewable power is by entering into corporate power purchase agreements (PPAs) directly with renewable energy generators. Corporate renewable PPAs are contracts that contain the commercial terms of the purchase of renewable energy, such as the contract period, point of delivery, delivery date/times, volume, price and product.

In addition to fulfilling sustainability goals, companies are also entering into corporate PPAs for economic and branding reasons. PPAs are economically attractive because they often contain pre-agreed prices for a period of time, which limits exposure to power price variability, while direct sourcing from renewable producers ensures long-term energy cost affordability.

PPAs can also strengthen a company's brand since civil society recognizes renewable energy achievements. From the perspective of the generator (which is often a project entity that is established specifically for the development and operation of renewable power production facilities), corporate PPAs are necessary to ensuring the long-term and stable revenue stream needed to make new investments viable.

Corporate PPAs are often extensive contracts and include a myriad of clauses and advanced price mechanisms that can increase accounting and financial reporting complexity. Companies usually prefer to consider a PPA as a "normal" supply contract and account for the energy costs based on invoices received (executory contract[1]). However, pricing mechanisms, the way the power purchased is used and the designation of a specific asset can cause the contract to be classified as a financial instrument (which has to be fairly valued in every reporting period and can cause undesired volatility in companies' financial results) or a lease (which results in recognition of the power generation assets on the

Who should read this paper?

This paper mainly aims to help accounting professionals at off-takers address issues surrounding accounting for corporate power purchase agreements. However, we also believe that sustainability professionals and corporate buyers could benefit from this paper by deepening their understanding and awareness of PPA clauses that could trigger an unexpected and undesired accounting impact. As the topics addressed in this paper are technical, we recommend that sustainability professionals and corporate buyers discuss the content with colleagues in finance and control functions. Given the complexity of accounting issues that may arise because of PPA contracts, we recommend the involvement of internal or external corporate PPA accounting experts early in the negotiation process in order to avoid binding the company to unexpected and undesired corporate PPA accounting consequences.

[1] In International Financial Reporting Standards (IFRS), executory contracts are defined as contracts under which neither party has performed any of its obligations or both parties have partially performed their obligations to an equal extent (International Accounting Standard (IAS) 37 — Provisions, Contingent Liabilities, and Contingent Assets).

balance sheet and in an increase in debt resulting in lower solvency ratios). The funding of a project entity that operates renewable power production facilities (hereafter referred to as the project entity) by means of equity instruments (for example by means of buying shares in the project entity) may trigger the consolidation of the project entity or recognition of the assets and liabilities of a jointly controlled project entity. This can potentially have an undesired impact on the company's solvency and other financial performance indicators.

The above-mentioned accounting matters are relevant to most corporate PPAs and are the focus of this paper. We note, however, that in specific circumstances other accounting issues not covered in this paper might also arise.

This paper focuses on accounting from the perspective of the *off-taker*. The off-taker is the entity that procures the power, as opposed to the generator, which is the entity that produces the power. However, if an off-taker also decides to invest in projects or project entities relating to renewable energy in combination with a PPA, the off-taker may also enter into a position where generation activities have to be consolidated.

Corporate PPAs have many different forms and contain their own specific contract clauses that impact accounting and financial reporting. Thus the purpose of this paper is to help off-takers understand the basics of International Financial Reporting Standards (IFRS) as they relate to corporate PPAs in order to identify the potential accounting and financial reporting consequences of entering into a PPA.

This paper is not comprehensive and does not provide accounting solutions for all types of corporate PPAs. To determine the appropriate accounting of a PPA, it is necessary to thoroughly analyze the accounting based on the contract and specific facts and circumstances. For the purposes of this analysis, we have used currently issued accounting standards, including those that will take effect in the next 18 months. We have used IFRS 9 — Financial Instruments (IFRS 9) instead of IAS 39 — Financial Instruments: Recognition and Measurement (IAS 39), which is currently in effect, and IFRS 16 — Leases (IFRS 16) instead of IAS 17 — Leases (IAS 17).

The basis of this paper is the decision tree shown in Figure 1, which illustrates the possible accounting treatments for PPA contracts. The decision tree helps determine what contractual elements must be evaluated in order to establish the accounting. Chapter 2 includes the decision tree as well as explanations of the relevant questions based on the relevant IFRS standards. Chapter 3 details the accounting impact of each of the relevant issues based on the relevant IFRS standards.

Corporate Renewable Power Purchase Agreements – Scaling up globally

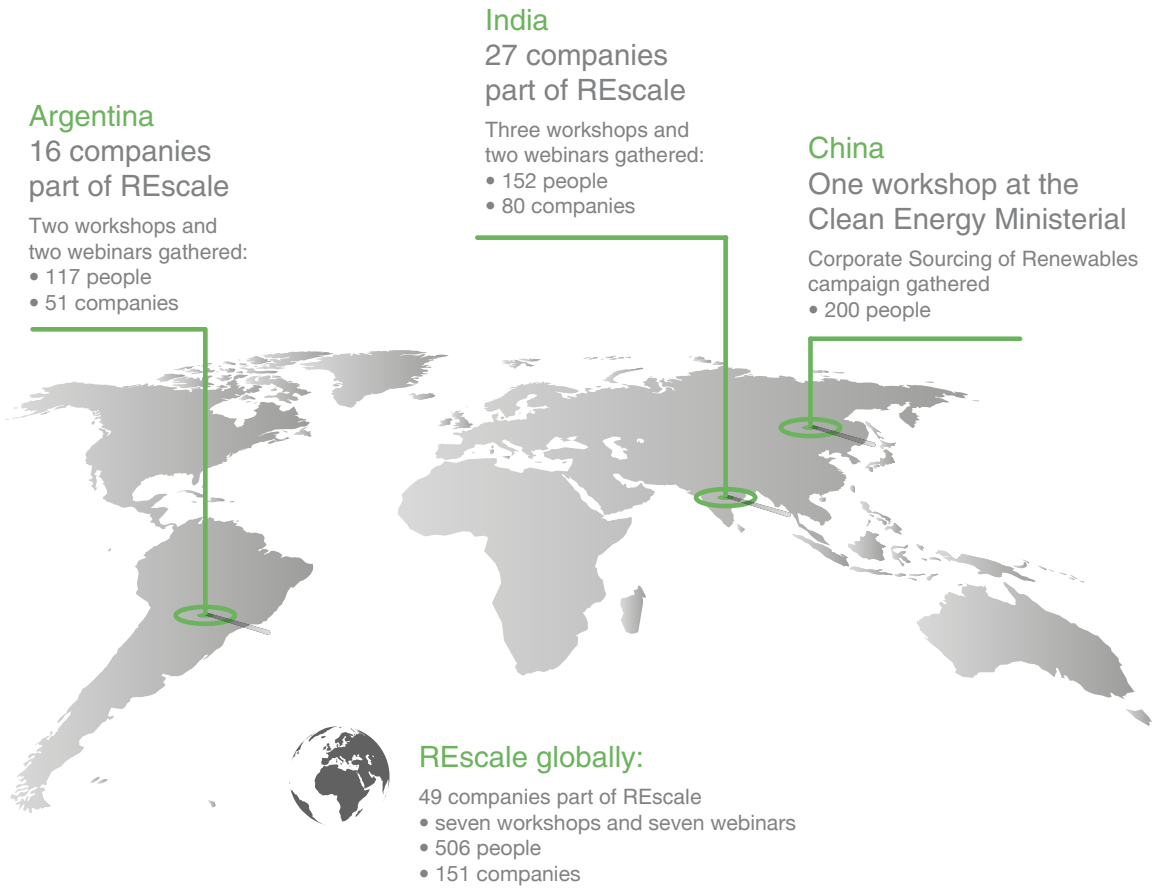
Organizations are increasingly looking to reduce their environmental footprint and energy costs. While reducing energy consumption is often the most obvious way to reduce impact on the climate, companies need to maintain continuous business operation. As a result, many private companies are procuring energy from renewable generation sources as part of their plans to reduce carbon emissions in their sustainability strategy. The role that renewable energy plays in a company's energy strategy is increasingly elevated from an operational and technical exercise to a strategic and commercial priority.

There are a number of ways for companies to adopt a renewable energy strategy, for instance through renewable electricity, heat or transport, all of which have associated benefits. The most accessible solutions in terms of carbon emission reduction for many industries are currently centered around renewable electricity.

Renewable electricity strategies vary from investing directly in a generation asset, or purchasing the power from a third party's project to buying renewable certificates. WBCSD's global report "Corporate Renewable Power Purchase Agreements – Scaling up globally" focuses on a company purchasing electricity from an off-site renewable electricity project via a PPA. Corporate PPAs are a suitable instrument to address off-take risk for developers and financing parties and therefore can significantly help to increase and accelerate the deployment of renewables – the objective of WBCSD's REscale business solution.

http://www.wbcsd.org/Clusters/Climate-Energy/Resources/Corporate_Renewable_PPAs_Scaling_up_globally

Figure 1:
Regional engagement activities for REscale

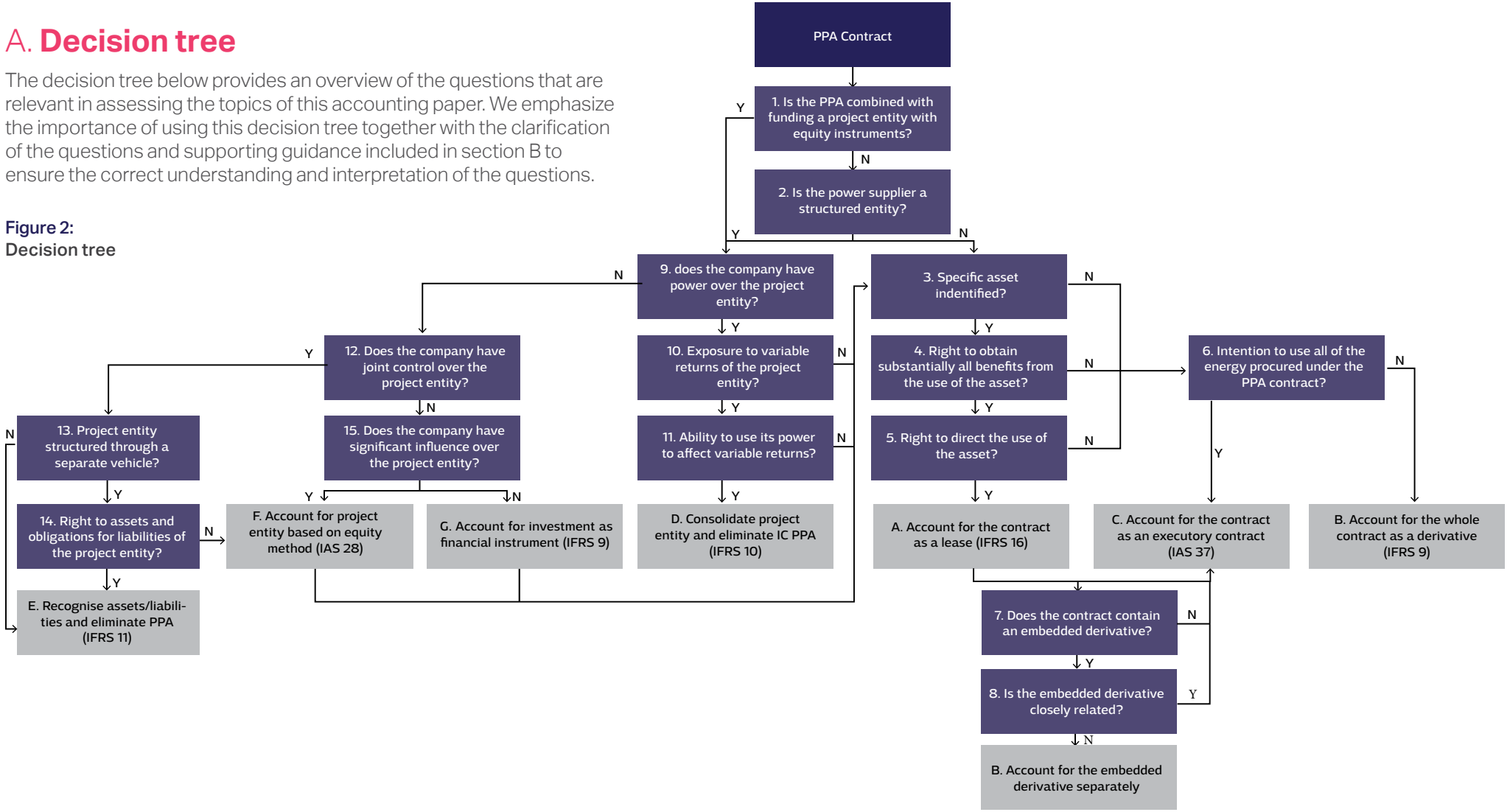


2. Application of accounting guidance for power purchase agreements

A. Decision tree

The decision tree below provides an overview of the questions that are relevant in assessing the topics of this accounting paper. We emphasize the importance of using this decision tree together with the clarification of the questions and supporting guidance included in section B to ensure the correct understanding and interpretation of the questions.

Figure 2:
Decision tree



B. Clarification and additional guidance relating the questions in the decision tree

1. Does the off-taker combine the PPA with funding a project entity that holds the power production assets by means of equity instruments?

The funding of a project entity that holds the power production assets by means of equity instruments may trigger the consolidation or recognition of assets and liabilities of a project entity. Funding might be provided by means of debt instruments or equity instruments. Funding by means of equity instruments with associated voting rights may result in consolidation. For hybrid instruments, it is necessary to analyze the debt-equity classification in more detail based on IAS 32 — Financial Instruments: Presentation (IAS 32).

2. Is the off-taker involved in purchasing power from a structured entity that owns the power production assets?

Structured entities are often designed for a specific purpose, which may include the provision of power from renewable sources. If the off-taker purchases power from a structured entity, it may also have to consolidate this entity if it controls the structured entity, including by means other than voting rights. IFRS 12 - Disclosure of interests in other entities defines a structured entity as an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity. This includes when any voting rights may relate to administrative tasks only and the relevant activities are directed by means of contractual arrangements.

The difference with structured entities is that, often, the normal substantive powers (such as voting rights) are not the means by which the investor controls the investee. Rather, it is the contracts that direct relevant activities. If the contracts are tightly drawn, it might initially appear that none of the parties has power over the structured entity. As a result, additional analysis is required to ascertain which party controls the structured entity.

Control of a structured entity is determined using the same framework in IFRS 10 that is used for all other entities (reference is made to questions 9 through 11). It is necessary to consider:

- The purpose and design of the structured entity;
- What the relevant activities are;
- How decisions about those activities are made;
- Whether the rights of the investor give it the current ability to direct the relevant activities;
- Whether the investor is exposed, or has rights, to variable returns from its involvement with the investee;

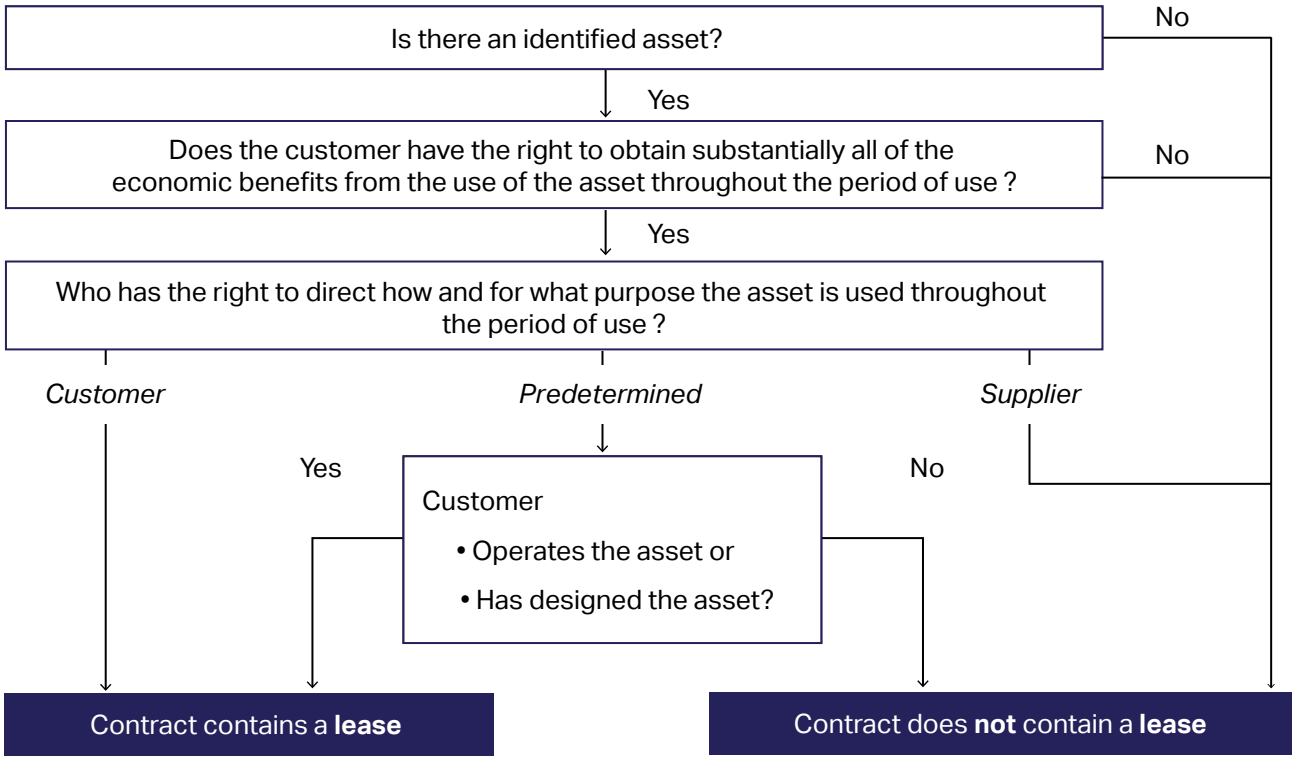
- Whether the investor has the ability to use its power over the investee to affect the amount of the investor's returns.

Other considerations include:

- Whether the decision-maker is a de facto agent of someone else;
- Whether there are any silos that should be considered separately for consolidation.

Questions 3-5 relate to the fundamental question as to whether the PPA contains a lease. IFRS 16 includes guidance on when a contract is considered to be, or contains, a lease. A PPA is, or contains, a lease if the contract conveys the right to control the use of an identified (specific) asset (e.g. windmill or solar farm) for a period of time in exchange for a consideration (mostly a monetary compensation based on the sales price included in the contract). It is important to undertake careful analysis to determine whether a PPA includes an embedded lease under IFRS 16. The resulting accounting implications can be significant and the contractual arrangements of a PPA usually are not structured or described as ordinary lease contracts.

Figure 3:
Identifying a lease



3. Does the PPA identify a specific asset?

The first assessment to determine if the PPA contains a lease is whether the PPA identifies a specific asset or assets on which the fulfilment of the contract is dependent.

An asset can be explicitly identified in a contract (e.g. serial number) but can also be implicitly identified at the time the asset is made available for use by the lessee (e.g. the power supplier has no alternative assets that can be used to fulfil the contract).

If the supplier has the substantive right to substitute the asset throughout the period of use, there is no identified asset. A supplier's right to substitute an asset is substantive only if both of the following conditions exist:

1) The supplier has the practical ability to substitute alternative assets throughout the period of use (for example, the customer cannot prevent the supplier from substituting an asset and alternative assets are readily available to the supplier or could be sourced by the supplier within a reasonable period of time); and

2) The supplier would benefit economically from the exercise of its right to substitute the asset (that is, the economic benefits associated with substituting the asset are expected to exceed the costs associated with substituting the asset).

We note that a capacity portion of an asset can also meet the definition of a specific asset if the portion is physically distinct. If the portion is not physically distinct but the portion 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 the use of the asset, the portion is still considered a specific asset.

4. Does the off-taker have the right to obtain substantially all of the economic benefits from the use of the asset throughout the period of use?

The arrangement must convey the right to obtain substantially all of the potential economic benefits that can be obtained from directing the use of the asset throughout the period of use to be a lease. Specifically, it is necessary to consider the rights to the output and other economic benefits derived from the use of the asset. Economic benefits generally include the primary output/power produced by the asset. An off-taker has the right to obtain substantially all of the economic benefits from the use of the asset if, for example, the PPA indicates that substantially all power that the asset of the supplier produces during its useful life is purchased by the off-taker. However, a plant's capacity to produce output might not always be the only means from which to derive economic benefits from its use.

The economic benefits that an entity can derive from a renewable power plant can relate to more than just power. For example, the power plant may also generate economic benefits that relate to renewable energy credits. (We note that accounting for renewable energy credits itself is highly judgmental and limited formal guidance exists. Therefore, this paper does not address accounting for renewable energy credits and we recommend involving an accounting specialist to discuss any questions around accounting for such credits).

5. Does the off-taker have the right to direct the use of the identified asset throughout the period of use?

This condition is met when:

1) The off-taker has the right to direct the use of the asset if it can decide how and for what purpose the asset is used. Examples are rights to decide when the power is produced, whether power is produced or not and the volume of the power produced; or

2) The relevant decisions about how and for what purpose the asset is used are predetermined and:

   i. The off-taker has the right to operate the asset (or to direct others to operate the asset in a manner that it determines) throughout the period of use, without the supplier having the right to change those operating instructions; or

   ii. The off-taker designed or influenced the design of 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. It is a prerequisite that the design of power production facilities predetermines how and for what purpose the assets will be used throughout the period of use because it determines the resulting economics. If the off-taker designed or influenced the design of the assets, it is assumed that the off-taker has the right to direct the use of these asset and this condition is met.

An off-taker will have the right to direct the use of a power production facility if it can direct (and change) how and for what purpose the asset will be used throughout the period of use. This may not be substantive in the case of renewable power generating assets once they are contracted for as there is no feasible alternative use other than to generate power. However, if the how and for what purpose the asset will be used are determined before the beginning of the period of use, e.g. predetermined by contract or design of the asset, an off-taker still directs the use of the asset if it has either:

1) Operational control over the asset; or

2) Control over the design of those aspects of the power production facility that predetermine how and for what purpose it will be used.

Design is expected to be a much more important indicator of the right to direct the use of the asset when the economics are effectively fixed in an arrangement prior to use. In assessing the significance of design, a reporting entity should consider how much variability is created during the operation of the asset that is not determined through its design.

An owner/supplier's protective right to inspect their power production facility to ensure it is being operated properly and maintained sufficiently should not be a factor in determining who controls the asset. These rights are protective rights not decision-making rights.

PPAs may require cooperation between the off-taker and the generator in areas such as the daily operation of the power production facility, managerial tasks, decisions about the optimization of the assets and potentially the design of the asset in order to achieve the optimum functionality of the underlying assets. The terms of a PPA should be carefully assessed to determine whether the arrangement contains an embedded lease.

6. Does the off-taker have the intention to use all of the power procured under the PPA contract?

PPA contracts can meet the definition of a derivative contract as entering into a PPA contract does not require an initial net investment: the value of the contract is based on the price of power and the contract is settled at a future date. However, such PPA contracts are not within the scope of IFRS 9 if all the power procured under the PPA contract is for the use of the off-taker. This is referred to as the *own use exemption*. If the own use exemption cannot be applied, the PPA contract as a whole is within the scope of IFRS 9 and must be accounted for as a derivative. The assessment of whether the own use exemption is applicable is difficult and requires judgement.

Relevant considerations, among others, in this assessment may include:

- The volume of the power supply: If the volume specified in the PPA exceeds to the volume used in the course of the off-taker's ordinary business, then the off-taker will need to sell a part of the power purchased. Because the off-taker will not use all power itself, the PPA is within the scope of IFRS 9 and has to be accounted for as a derivative. Determining PPA volumes can be subjective in cases of uncertainty about the volume of power to be purchased under the PPA. Uncertainty can arise when, for example, the PPA includes a bandwidth volume or the output of the related power production facility is variable. The latter is often the case with renewable power production facilities such as wind and solar parks. Assessing whether or not the own use exemption is applicable in these instances requires judgment and has to be done on a case-by-case basis.
- The grid to which the supplier and the off-taker are connected: The power obtained under the PPA must be delivered to the same grid from which the off-taker consumes its power to support the claim that the power purchased is used by the off-taker. Therefore, cross-border PPA contracts may be excluded from being accounted for as an own use contract.
- Written options: PPAs that contain an option written by the off-taker providing the generator with a right to sell the power relating to the PPA mean that the own use exemption is not met. The off-taker that has written the option cannot control whether the option will be exercised and cannot claim that the contract was entered into with the purpose of purchasing power that will be used in the off-taker's ordinary course of business.
- Net settlement: The own use exemption cannot be applied if the off-taker intends to or practices net settlement of the contract. Net settlement is often used in virtual PPAs and means that the power is not always delivered under the contract but instead the expected net gain or loss on the contract is paid for or received by the off-taker. IFRS 9 describes several ways in which a contract can be net settled. The most typical situation is if the terms of the PPA allow either party to net settle in cash or by exchanging financial instruments. If the right to net settle is not included in the terms of the contract but the off-taker has a practice of net settling similar contracts by entering into offsetting contracts with the same counterparty or by selling the contract before its exercise or lapse, the ability to net settle is deemed to be present. Furthermore, net settlement is deemed to be present 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 a dealer's margin (i.e. trading activity). Other ways to net settle a contract exist but are generally not relevant for PPA contracts.

Under IAS 39, if the ***own use*** exemption is met, the contract must not be accounted for as a derivative (the application of the own use exemption is not a choice). However, the contract may be accounted for at fair value under IFRS 9 if doing so removes an accounting mismatch (the ***fair value option***). An example of this is when the off-taker has hedged the fair value of a fixed price PPA contract with a swap that is measured at fair value. By also accounting for the PPA contract at fair value, with changes of both the swap and the PPA contract being recognized in profit or loss, the off-taker avoids a mismatch between the measurement of the PPA contract and the swap.

7. Does the PPA contain an embedded derivative?

PPA contracts may include terms and conditions that resemble and behave like a free-standing derivative. IFRS requires theses ***embedded derivatives*** to be separated from the ***host contract*** and accounted for as if they were free-standing derivatives in certain circumstances. A contract that consists of a host contract and one or more embedded derivatives is referred to as a ***hybrid instrument***.

Determining if a host contract contains an embedded derivative can be challenging. A key indicator that an embedded derivative may be included in the host contract is that the cash flows over the contract term vary according to a specified index, rate or price, such as commodity prices. PPA contracts often contain complex pricing arrangements that refer to a power price, often with a certain floor price or cap price, and as such must be evaluated for the existence of embedded derivatives.

Examples of embedded derivatives relating to PPAs (list not fully inclusive):

- Pricing is based on an index: This is applicable when the pricing for the power supply in the PPA includes a reference to any listed price or index. The reference does not necessarily relate to the power price itself. The price can also be linked to other indices, for example an oil index.
- Leverage features: A contract contains leverage features if the contractually required cash flows are modified in the contractual terms in such a way that the cash flows multiply or otherwise exacerbate the effect of the change in the index or power price(s).
- Cap or floor on the power price: PPA contracts may include certain power price limits. The terms can include clauses that determine that the price cannot be higher than X or lower than Y. Hence the price is variable, but only to a certain extent.
- Foreign currencies: Power prices in the PPA contracts are denominated in a foreign currency.

Examples of embedded derivatives relating to PPAs that contain a lease (list not fully inclusive):

- Lease payments are based on an inflation index: In this instance, the payments specified in the PPA contracts are adjusted to a consumer price-index.
- Lease payments are indexed to a variable interest rate: The price specified in the PPA contracts can be adjusted over time based on changes in a specified variable rate interest, such as the London Interbank Offered Rate (LIBOR).
- Lease payments in a foreign currency: PPA contracts can specify payments that are denominated in a currency other than the functional currency of the lessee or the lessor.
- Term extension options: The buyer in the PPA contract has to option to extend the term of the contract.

8. Is the embedded derivative closely related?

IFRS 9 does not provide a specific definition of the *closely related* concept. Rather, IFRS 9 provides a number of examples that detail why in a specific case the embedded derivative is closely related to the host contract or not. The examples make clear that the assessment is in essence a comparison between the economic characteristics and risks of the embedded derivative and the economic characteristics and risks of the host contract.

A key factor that determines the risk of a derivative is the underlying (i.e. the index/price of the non-financial item) and the extent (leverage) to which changes in the underlying affect the settlement. In order to meet the closely related criterion for an embedded derivative in a contract to buy or sell a non-financial item like power, it is expected that the risk underlying

the embedded derivatives is highly related to the risk of that non-financial item. Risk often relates to pricing and therefore it should be determined whether the price adjustment features are related to the cost or fair value of power.

Examples of embedded derivatives relating to PPAs being closely related or not:

- Pricing based on an index: An index is closely related if its economic characteristics and risks are similar to those of the power supply itself (e.g. if it is linked to the prices on the power market). For example, if the index increases because of a certain market development, but the power price is affected differently (i.e. is not affected, is affected less or more, or instead of increasing, it decreases) based on the same market development, its economic characteristics and related risks are likely to be different. Consequently, the index is likely not closely related to the power supply of the PPA.
- Leverage features: A PPA contract in which the price adjustment feature (i.e. the index) is closely related to the price of power may not be closely related if the contract contains a level of leverage. Leverage results in a discrepancy between the risk of the host contract and the risk of the embedded derivatives as the two no longer behave in a similar way to changes in the risk. IFRS does not define what level of leverage causes an embedded derivative to no longer be considered closely related. We note that an inflation adjustment feature is not considered leverage if the specific inflation index chosen is related to the economic environment the company operates in and the inflation correction is not leveraged in itself. As a level of leverage is not defined, judgement needs to be applied.
- Cap or floor on the power price: PPA contracts often contain pricing arrangements that are linked to a power price index. In order to limit the extent to which the parties are exposed to changes in the index, lower (*floor*) and upper (*cap*) limits on the price index may be included in the PPA. Under IFRS these caps and floors are considered closely related when, at the time the off-taker enters into the contract, the cap and floor are *out of the money*. This means that the current market price is not lower than the floor and not higher than the cap and hence the cap and floor currently do not impact the price for which the power is purchased.
- Foreign currencies: An embedded derivative relating to foreign currencies is not closely related if the currency of the PPA is not:
    - The functional currency of the power supplier or the off-taker itself;
    - The currency in which the power price is routinely denominated in commercial transactions around the world; or
    - The currency that is commonly used in contracts to purchase or sell non-financial items in the economic environment in which the power supply takes place.

Examples of embedded derivatives relating to PPAs that contain a lease being closely related or not:

- Term extension or renewal options: The right to extend the lease is not a right to borrow funds for a further period, as would be the case with a debt instrument; rather, the right to extend the lease is a right to use a non-financial asset for an additional period. Furthermore, under IFRS 16 the extension term would either be included in the calculation of the lease term (if it is reasonably certain that at the inception of the lease the lessee will exercise the option), or the renewal would constitute a new lease because the leased asset and the corresponding liability (if either exists) would have been amortized to nil by the end of the original lease term. Hence, there is no need to separate an embedded derivative.
- Termination clauses: The lease in the PPA contract might contain a termination clause that allows the lessee to terminate the contract, but only on payment of a penalty. Where this penalty payment ensures that the lessor will be able to recover its remaining investment in the lease, then the option is closely related. This situation is similar in substance to a prepayment option in a debt instrument, which is considered closely related in circumstances where the option's exercise price is approximately equal to the amortized cost of the debt instrument.

- Inflation linked payments: If the lease payments are indexed to an inflation index that is representative for the economic environment in which the generation asset is located and does not contain a leverage feature, then the embedded derivative is considered closely related.

Questions 9 to 11 relate to whether the off-taker controls a project entity. The off-taker has power over a project entity when the off-taker has existing rights that give it the current ability to direct the relevant activities, i.e. the activities that significantly affect the returns of the project entity. Power arises from rights.

9. Does the off-taker have power over the project entity?

Sometimes assessing power is straightforward, such as when power is obtained directly and solely from the voting rights granted by equity instruments such as shares and can be assessed by considering the voting rights from those shareholdings. In other cases, the assessment will be more complex and require more than one factor to be considered, for example when power results from one or more contractual arrangements. An example of a contractual arrangement indicating the ability to direct (having power) is when an off-taker has the ability to appoint the key management personnel or has approval rights relating to operational, financial and/or investing decisions. Since these contractual terms ensure that the off-taker can direct the day to day activities, these terms might form the basis to conclude that the off-taker has the power over the project entity.

It is important to identify the *relevant activities* and which party has the ability to direct those relevant activities. Relevant activities are activities that significantly affect the project entity's returns (IFRS 10 — Consolidated Financial Statements, Appendix A). Examples of relevant activities that relate to project entities are maintenance decisions, investment decisions, decisions related to financing, decisions related to production, budget decisions, etc. It is necessary to assess the ability to direct those activities and not whether this ability is used.

10. Is the off-taker exposed to the variable returns of the project entity?

Exposure to variable returns from its involvement with the project entity exists when the returns the off-taker receives vary based on the performance of the project entity. Returns do not necessarily need to be dividends but may take other forms, such as returns that are not available to others, for example synergies.

11. Does the off-taker have the ability to use its power to affect the amount of its returns?

This final criterion combines the two factors mentioned in questions 9 and 10. An off-taker controls a project entity if the off-taker not only has power over the project entity and exposure to rights to variable returns from its involvement, but also has the ability to use its power to affect the off-taker's return from its involvement in the project entity (IFRS 10.17). Thus an off-taker with decision-making rights shall determine whether it is a principal or an agent. If an off-taker acts as an agent, it actually makes the decisions on behalf of the principals (IFRS 10.18). However, when the off-taker delegates its ability to use its power to another off-taker, for example to appoint members of the project entity's key management personnel who make important decisions on their behalf, this might be an indication that the off-taker is acting as a principal and therefore has the ability to use its power over the project entity in order to affect the returns.

An off-taker has to carefully consider the overall relationship between itself, the project entity and any other parties involved in determining whether it is an agent, in particular all factors below (IFRS 10.B60):

- The scope of its decision-making authority over the investee;
- The rights held by other parties;
- The remuneration to which it is entitled; and
- The decision maker's exposure to variability.

12. Does the off-taker jointly control the project entity?

Joint control over a project entity exists when there is a contractual arrangement where at least two parties agree to share control over the activities of the project entity in accordance with IFRS 11 — Joint Arrangements (IFRS 11). Parties share control if they agree on unanimous consent for decisions about relevant project entity activities. This can be arranged in a contract or can be the result of two parties having 50% of the voting rights (in combination with the exposure to variable returns and the ability to use their power to affect the amount of their returns).

Project entities over which control is exercised jointly can be classified as:

- A joint operation, which is an arrangement whereby the parties that have joint control of the arrangement have rights to the assets and obligations for the liabilities relating to the arrangement;
- A joint venture, which is an arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement.

The classification depends on the nature of the parties' exposure to the arrangement which is assessed based on questions 13 and 14 below. If the project entity is classified as a joint venture, the off-taker has a PPA with their joint venture. The off-taker has to determine the accounting of the PPA with this joint venture as well (refer to the arrow to question two in the decision tree).

13. Is the jointly controlled project entity structured through a separate vehicle?

The first question to determine the classification is whether the arrangement is structured through a separate vehicle. A joint arrangement that is not structured through a separate vehicle is a joint operation. In such cases, the contractual arrangement establishes the parties' rights to the assets and obligations for the liabilities relating to the arrangement, and the parties' rights to the corresponding revenues and obligations for the corresponding expenses.

14. Does the off-taker have rights to the assets and obligations to the liabilities of the project entity?

If the arrangement is structured through a separate vehicle, the parties to the joint arrangement have to analyze the underlying contractual agreements to determine whether the arrangement grants rights to assets and obligations for liabilities, or whether it grants rights to net assets. The underlying rights and obligations of the parties need to be considered in the context of IFRS 11.17:

- Legal form of the vehicle: The arrangement is a joint operation only if the legal form of the project entity does not create a separation between the parties and the project entity. This means that the assets and liabilities held in the separate vehicle are the parties' assets and liabilities.
- Terms of the contractual arrangement: The project entity is a joint operation if the terms and conditions of other contractual arrangements grant rights to the assets and create obligations for liabilities of the project entity.
- Potential other relevant facts and circumstances: Whether the parties designed the arrangement so that its activities primarily aim to provide the parties with an output. This might be the case when the parties have rights to substantially all the economic benefits/power produced by the project entity (by preventing the project entity from selling power to third parties) and settlement of the liabilities of the project entity depends on the cash flows received from the parties on a continuous basis.

These criteria have to be assessed but are seldom met if the renewable energy generator is in a legal entity that creates separation.

15. Does the investor have significant influence over an entity?

Significant influence is presumed to exist when an off-taker holds at least 20% of the investee's voting power. It is presumed not to exist when the off-taker holds less than 20%. However, the substance of the arrangement is the key factor; therefore, it could also be that a party holding less than 20% of the voting power does have significant influence, if this is clearly demonstrated. If significant influence is present, the project entity is classified as an associate. If not, the off-taker's shareholding in the project entity is a financial instrument as described under IFRS 9. In both cases, the off-taker has a PPA with an associate or with an entity in which it holds an investment. It is necessary to determine the accounting of the PPA with this associate or investment as well (refer to the arrow to question two in the decision tree).

3. **Accounting impact**

This chapter describes the main elements of PPA contract accounting based on the various scenarios of the decision tree results (grey boxes). It focusses on the main elements that are expected to be relevant for PPA contracts in order to provide an understanding of the topics and considerations that might be applicable. It does not aim to provide a comprehensive explanation of all potential accounting consequences for PPA contracts as a detailed analysis of the relevant standards and specific facts and circumstances is necessary to determine and draw conclusions about the accounting of individual PPAs.

This paper includes several examples illustrating the various accounting implications. The facts and circumstances of each example are adjusted for the various accounting scenarios in order to illustrate the accounting impact of certain PPA contract clauses.

Example – Basic facts and circumstances

Company X is a production company with one central production location. This location consumes 30,000 MWh per year. Company X has a defined corporate social responsibility (CSR) strategy and part of this strategy is to decarbonize their energy consumption. In addition, Company X considers its exposure to energy price fluctuations and the related volatility in its income statement. To achieve its CSR goals relating to decarbonizing its energy consumption and in order to reduce exposure to the variable energy prices, Company X decided to enter into a corporate PPA with Windmill Park Y. Windmill Park Y consists of 10 windmills, each producing approximately 2,500 MWh per year. In the power purchase agreement, Company X (the purchaser) and Windmill Park Y (the supplier) agreed that Company X will purchase 25,000 MWh yearly from Windmill Park Y over the next 15 years for CU 45 per MWh. Company X will use the energy for its own production facilities.

This agreement has advantages for both parties. Company X reduces the volatility fluctuating energy prices will have on its income statement since it will have a stable energy price for a large part of its energy consumption. Windmill Park Y has a stable revenue stream as it has certainty that it will sell 25,000 MWh at a fixed price for the coming 15 years.

A. Account for the contract as a lease

If the conclusion is that the PPA is, or contains, a lease, the off-taker has to recognize a *right-of-use asset* and corresponding lease liability on the balance sheet.

The lease liability reflects the obligation to make lease payments in exchange for the right to use the underlying asset and is measured at the present value of the future lease payments. IFRS 16.27 explains which payments should be included in the measurement of the lease liability. Among others, fixed payments, fixed in-substance payments, and variable payments that depend on an index should be included in the measurement of the lease liability. Discussions are ongoing as to whether PPA payments relating to a solar plant or wind farm (which are classified as a lease), which are based on the production and sales of electricity, are variable (because they are dependent on the availability of wind or sun and the actual production of electricity) or are fixed in substance (because an obligation exists that can be estimated reliably). At the moment, the consensus is that these payments are genuinely variable and should not be included in the measurement of the lease liability.

The lease payments are discounted using the interest rate implicit in the lease, if that rate can be readily determined. If that rate cannot be readily determined, the lessee shall use the lessee's incremental borrowing rate. Because it might be difficult to determine the implicit interest rate of a PPA (PPA contracts are usually not designed as a lease and the cash flows relating the PPA may vary based on production volumes), the incremental borrowing rate can be used to determine the discount rate for the present value calculation. The cash flows should be based on the volumes and prices agreed in the contract. For lease payments included in the measurement of the lease liability, further reference is made to IFRS 16.27 and 16.28.

The right-of-use asset relating the PPA is accounted for at the amount of the initial measurement of the lease liability (together with any initial direct costs incurred by the off-taker). For further details relating to the initial measurement of the right-of-use asset at cost, reference is made to IFRS 16.24.

The right-of-use asset is included in the tangible fixed assets on the balance sheet.

The off-taker recognizes the interest expense from the lease liability and depreciation of the right-of-use asset. The off-taker accounts for cash payments partially as repayment of the lease liability and partially as interest expense. The off-taker classifies cash payments for the principal portion of the lease liability within financing activities in the cash flow statement while presenting the interest portion as an operating cash flow (if the chosen accounting policy is to present interest payments as operating cash flows).

Example – The PPA contains a Lease

Using the same situation as in the initial example, further assume that the company has identified the windmill park it wants to use and has the ability to direct its use and can decide what production volumes the company needs. The specific assets relate to the windmill park and the company purchases all energy relating to the windmill park during the PPA's 15-year term, which covers almost the whole useful life of the assets for a fixed amount of CU 1,125,000 per year. The conclusion is that the company has substantially all of the economic benefits of the assets. Based on these facts and circumstances, the company must account for the PPA as a lease.

Assuming that the implicit interest rate of the lease cannot be derived from the PPA and the incremental borrowing rate of the company amounts 6%, the company has to account for a lease liability of CU 10,926,280, which is equal to the present value of the yearly payment of CU 1,125,000 over 15 years. Assuming that no other related expenses are applicable, the company also accounts for a right-of-use asset of CU 10,926,280.

The depreciation, calculated on a straight-line basis, amounts to CU 728,419 per year, which is based on the initial measurement of the right-of-use asset divided by 15 years. The payment of CU 1,125,000 has to be split in parts that relate to the interest expense and the repayment of the principal for the lease liability. The interest expense for the first year amounts to CU 655,577 and is based on 6% over the liability of CU 10,926,280 at the beginning of the period. The company deducts the remaining part of the payment — CU 469,423 —from the amount of the liability as repayment. The company charges a total expense of CU 1,383,995 to the profit and loss account in the first year.

If the PPA is, or contains a lease, and the amounts are fixed, the accounting may significantly impact the off-taker's financial statements and key ratios such as EBITDA (earnings before interest, taxes, depreciation and amortization), debt-to-equity and interest cover ratios. These ratios are often considered when monitoring debt covenants and determining management incentive schemes, which can have implications going beyond accounting. A PPA that does not contain a lease is accounted for as a regular supply contract in which the expenses are presented as part of cost of goods sold or operating expenses. The expenses of a PPA accounted for as a lease will be classified as depreciation and interest expenses. This will have a positive impact on the non-IFRS EBITDA[2] measure. Another consequence is that interest expenses decrease during the term of the PPA and depreciation expenses are usually accounted for on a straight-line basis; the net financial result during the first half of the contract term is lower than a comparable PPA accounted for as regular supply contract. It is the opposite in the second half of the contract term. Finally, lease accounting negatively impacts the solvency ratio as additional financial liabilities are included in the balance sheet.

The difference between IAS 17 and IFRS 16

IFRS 16 goes into effect on 1 January 2019 and replaces the current IAS 17 standard. The concept of control over the use of an identified asset in IFRS 16 is based on both a power element (the right to control the use of an identified asset) and a benefit element (the right to obtain substantially all of the economic benefits from the use of that asset). While a lease could also exist under IAS 17 solely based on the customer having the right to obtain all of the power or output from an identified asset, the customer will need to have decision-making rights over the use of the asset for there to be a lease under IFRS 16. Without the right to control the use of an identified asset, the customer has no more control over the asset than any other customer purchasing goods or services from the supplier.

IAS 17 distinguishes between two types of lease classifications: a financial lease and an operating lease. The classification of the lease as either finance or operating is based on whether the arrangement transfers substantially all the risks and rewards associated with the underlying asset to the lessee. For lessees, IFRS 16 eliminates almost all off-balance sheet accounting and introduces a single lease accounting model for lessees. In practice, for lessees this means that no distinction is made between operating or finance leases and that all leases are presented on the balance sheet by lessees. Lessor accounting remains largely unchanged.

The divergence in the accounting model of lessees and lessors under IFRS 16 can now result in two entities recognizing assets on their balance sheet (one the underlying asset and the other the right to use an asset).

Finance leases under IAS 17 require a lessee to recognize an asset held under a finance lease and a corresponding obligation to pay rentals. The power supplier as lessor would derecognize the underlying asset and in turn recognize a lease receivable. The resulting accounting is similar to a sale and financing arrangement as the risk and rewards associated with the asset are assumed to be transferred to the off-taker due to the provisions in the PPA. The power supplier is usually no longer exposed to risks associated with the quantities produced by the plant, price volatility or other risks and rewards associated with asset. It is only exposed to credit risk and any remaining residual asset. The power supplier will, however, retain the legal ownership of the asset throughout the period of use.

Under an operating lease, the lessee does not recognize an asset and lease obligation and does recognize a straight-lined operating lease expense. The power supplier continues to recognize the underlying asset and depreciates it. The rental payments received are recognized by the power supplier as a straight-line rental income. In this scenario, the power supplier retains substantially all of the risks and rewards related to the power plant.

[2] IFRS does not define EBITDA as a financial performance measure. However, it is frequently used in investor presentations and press releases to express a company's performance.

B. Account for the whole contract as a derivative or account for an embedded derivative in the contract separately (IFRS 9)

IFRS9 defines a derivative as a financial instrument that obtains its value from an underlying price or index, requires little or no initial net investment, and is settled at a future date. Derivatives are, upon initial recognition and subsequent balance sheet dates, recognized and measured at fair value with its movements in fair value recognized in profit or loss. These periodic revaluations can cause volatility in the income statement.

PPA contracts can meet all the characteristics of a derivative. Most often entry into the contract requires no initial payment. Furthermore, the pricing agreements in the contract, such as a fixed price, cap price or floor price, will impact the fair value of the contract as the market price of power fluctuates and the pricing agreement in the contract becomes favorable or unfavorable. Lastly, the contract is settled at a future date as power is delivered and paid for.

If a PPA contract contains an embedded derivative that is not closely related to the host contract, the off-taker needs to account for the derivative separately, unless the PPA contract as a whole is already measured at fair value. The bifurcated derivative is accounted for as a regular derivative under IFRS 9 at fair value, with changes in the fair value recognized in the profit and loss account.

Example – Full contract is in scope for IFRS 9

Using the same situation as in the initial example, assume the power usage requirement of Company X is only 15,000 MWh per year; therefore, it is expected that the company will have a surplus of 10,000 MWh. This surplus is sold back to the market in exchange for the then listed (variable) energy price.

For Company X this contract can be beneficial since all price volatility related to the power consumed is removed from its income statement. However, by committing to buy all the energy produced by Windmill Park Y, Company X has committed to buying more power than is required during its ordinary business; thus, the company cannot apply the own-use exemption and the full contract is considered within the scope of IFRS 9 and accounted for as a derivative. The company measures the derivative at fair value and recognizes changes to the fair value in the income statement.

Hedge accounting relationships can designate PPA contracts as a hedging instrument.

Example – Embedded derivatives

Using the same situation as in the initial example, assume now that Company X and Windmill Park Y specified the following in the PPA contract: Company X will consume 25,000 MWh per year in the coming 15 years at the prevailing market price at the delivery date. However, the purchase price cannot exceed CU 55 per MWh (cap) or fall below the price of CU 35 per MWh (floor). Both the floor and the cap are options and thus derivatives. Their value depends on the market price for power. We assume that no initial or little investment is made for the option and that the PPA contract as a whole is not measured at fair value.

The cap included in the contract is beneficial for Company X, since it knows beforehand that even if the variable energy price moves up to CU 60 per MWh, it will not pay more than CU 55 per MWh for the next 15 years. On the other hand, the floor included in the contact is beneficial for Windmill Park Y, since it ensures that they will get CU 35 per MWh at a minimum even if the price drops below CU 35 per MWh.

Under IFRS, the company needs to separate the embedded derivatives from the PPA contract if the cap or floor is in the money at the PPA contract's inception. Therefore, if the market price for power for the period within the scope of the PPA contract is below CU 35 per MWh or above CU 55 per MWh, one of the embedded derivatives is in the money. If the embedded derivative is not in the money, the company does not need to separate it and has to account for the contract as a regular purchase contract (reference is made to section C).

Determining the fair value of a derivative is usually complex and often requires the involvement of valuation specialists as well as market data availability. Given the long-term nature of PPAs, the latter can sometimes be a limitation as liquid power markets are often not available for periods beyond five years. A wide range of valuation techniques exists that may need to be used in valuing (embedded) derivatives. Common techniques include discounted cash flow analyses for derivatives without optionality while optionalities are valued with option-pricing techniques: formulas (Black-Scholes type models), binomial trees or simulations.

C. Account for a PPA as a "normal" executory contract (IAS 37)

For most off-takers, accounting for a PPA as an executory contract is the desired accounting method. It is simple and it has less accounting impact. The expenses are included in the income statement based on the costs attributable to the power delivered to and consumed by the off-taker in their ordinary course of business.

Example – Executory contract

Based on the facts and circumstances of the initial example, this contract is an executory contract. The company charges a yearly amount of CU 450,000 to the profit and loss account.

However, based on the long-term nature of a PPA, it could become an onerous contract if power prices decrease significantly. Onerous contracts are defined as contracts in which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it. A contract is not necessarily onerous if only the PPA power price exceeds the market price because the off-taker needs to consider the economic benefits as a whole, including the economic benefits of the PPA for the off-taker as relates to power usage, for example in a production process. If the products are still sold at a profit, the contract is not onerous.

It is also important to note that in assessing whether products are still sold at a profit, the off-taker should not take fixed overhead costs into account if these costs would be incurred irrespective of the onerous contract and thus should not include these costs in an onerous contract provision. However, if the costs are clearly incremental and directly related to support of the contract, the off-taker should include them in the onerous contract provision.

If an entity has a contract that is onerous, it shall recognize and measure the present obligation under the contract as a provision based on whichever of the two following amounts is lowest:

- The amount to be paid as compensation for exiting the contract; or
- The discounted amount of the difference between the purchase obligations and the amount of the economic benefits (for example the profit margin on the products to be produced with the power) for the remaining contract term.

D. Consolidate the project entity and eliminate intercompany PPA

Sometimes off-takers also participate in the development of new renewable power production facilities, which results in the *additionality* of renewable energy generation. If they provide funding to the project entity, the question is how that could impact the accounting for the related PPA between the off-taker and the project entity.

If the off-taker controls the project entity, the financial information, including all project entity power generation assets and liabilities, has to be fully included in the off-taker's consolidated financial statements. Any potential interest of minority shareholders is included as part of the group equity of the off-taker. The consolidation of a project entity can significantly impact the off-taker's financial statements, including relevant key performance indicators such as solvency ratios, EBITDA and interest cover ratios.

In its consolidated financial statements, the off-taker should eliminate the PPA because this relates to transactions between companies within the same group. However, the off-taker still has to account for and disclose the PPA on the financial statements as a related party transaction in accordance with IAS 24. To ensure accurate accounting in its financial statements, the off-taker has to analyze the PPA on issues in the areas of lease accounting and financial instrument accounting like any other PPA with an unrelated/third party.

E. Recognize assets/liabilities and eliminate the PPA

In cases where the shareholding in the project entity is a joint operation, the off-taker shall recognize in relation to its interest in a joint operation (IFRS 11.20):

- Its assets, including its share of any assets held jointly;
- Its liabilities, including its share of any liabilities incurred jointly;
- Its revenue from the sale of its share of the output arising from the joint operation;
- Its share of the revenue from the sale of the output by the joint operation; and
- Its expenses, including its share of any expenses incurred jointly.

Similar to consolidation, the off-taker has to eliminate the PPA itself, as the power supply relates to own assets.

F. Account for the project entity based on the equity method

In cases where the off-taker is either accounting for its investee as a joint venture or as an associate, under the equity method, the off-taker initially recognizes its investment in an associate at cost and increases or decreases the carrying amount to recognize the investor's share of the profit or loss of the investee after the date of acquisition. The off-taker recognizes its share of the profit or loss of the project entity in its profit or loss. Distributions received from a project entity reduce the carrying amount of the investment. Adjustments to the carrying amount may also be necessary for changes in the off-taker's proportionate interest in the project entity arising from changes in the project entity's other comprehensive income (IFRS 11.24 and IAS 28.11). When applying the equity method, the off-taker uses its own accounting policies. If an associate or a joint venture uses accounting policies other than those of the off-taker for like transactions and events in similar circumstances, the associate's or joint venture's accounting policies shall be adjusted to make them similar to those of the off-taker when the entity uses the associate's or joint venture's financial statements in applying the equity method.

Because the off-taker has a PPA with an unconsolidated entity, the contract does not relate to an intercompany transaction. The off-taker accounts for the PPA based on all relevant IFRS standards.

In its financial statements, the off-taker should eliminate its share in any profits realized by the project entity on upstream transactions between the off-taker and the project entity. The associate or joint venture might sell power to the off-taker or to other parts of the investor's consolidated group. The off-taker should eliminate any unrealized profits from these upstream transactions, to the extent of the off-taker's interest in the associate, until the transaction has been crystallized by an onward sale to a third party. The entity eliminates its share of the profit against the carrying amount of the associate. The accounting entries are to debit the share of profit of the associate and to credit the investment in the associate.

G. Account for project entity as a financial instrument (IFRS 9)

In cases where the off-taker has less than significant influence over the project entity, it measures the investment at fair value based on IFRS 9. Under IFRS 9, the off-taker accounts for this investment in equity instruments as an investment at fair value, with the fair value changes recognized in the profit and loss account unless it uses the fair value through the other comprehensive income (OCI) option. Hence when an off-taker concludes it only has an equity investment, it needs to fair value these equity investments at every balance sheet date, which results in volatility in the profit and loss account to a certain extent.

Because the off-taker has a PPA with an unconsolidated entity, the contract does not relate to an intercompany transaction. The off-taker accounts for the PPA based on all relevant IFRS standards.

WBCSD's REscale business solution

Through REscale, leading companies are working together on solutions to accelerate the deployment of renewables beyond average growth and transition to a low-carbon electricity system. The group shares the view that renewable energy is reliable and increasingly competitive, and that 3.5 TW of capacity can be deployed by 2025.[3]

In 2016, REscale published the report 'Corporate Renewable Power Purchase Agreements: Scaling up globally' that guides companies through the process of procuring renewable power via Power Purchase Agreements (PPAs). This report continues our work focusing on the IFRS accounting outline for PPAs to increase awareness, understanding and use of Corporate Renewable PPAs. The platform undertaking this work is called the global Corporate Renewable PPA Forum.

To find out more about REscale, the global Corporate Renewable PPA Forum and previous reports, visit our website.

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WBCSD is a global, CEO-led organization of over 200 leading businesses and partners working together to accelerate the transition to a sustainable world. We help make our member companies more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies.

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This publication is released in the name of the World Business Council for Sustainable Development (WBCSD). This document is the result of a collaborative effort between WBCSD, PwC and representatives from companies participating in the global Corporate Renewable PPA Forum.

A wide range of WBCSD members reviewed the material, thereby ensuring that the document broadly represents the majority view of the global Corporate Renewable PPA Forum.

It does not mean, however, that every company within the forum agrees with every word.

The report has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax, legal or other professional advice.

Authors and contacts

We thank PwC and in particular its lead authors:

Gert-Jan Brouwer
Jurian Goei

To contact WBCSD about this report:
Mariana Heinrich
Manager, Climate & Energy
heinrich@wbcsd.org

For general enquiries at WBCSD:
Rasmus Valanko
Director, Climate & Energy
valanko@wbcsd.org

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The global Corporate Renewable PPA Forum currently consists of the following companies supporting this report:

[3] The 3.5 TW figure is based on the International Energy Agency's 2° scenario.

World Business Council for Sustainable Development

Maison de la Paix
Chemin Eugène-Rigot 2B
CP 2075, 1211 Geneva 1 Switzerland
www.wbcsd.org