Global**Renewable**Hub

Power Purchase Agreements (PPAs)

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A Power Purchase Agreement (PPA) is exactly what it says: an agreement to buy power from an electricity generator. PPAs are particularly important in the renewable sector. However, they are widespread in energy markets, across all types of technology

How do they work?

PPAs provide a way for corporate buyers to purchase renewable power and Green Certificates directly from an energy generator, rather than the local utility. They provide a transparent and traceable route to procuring clean energy.

When a buyer takes out a PPA, they are committing to buy the output of a renewable power project, often for a fixed price. This benefits the developer, by making projects more bankable, and the buyer, by giving them flexibility and transparency over their energy costs, the ability to hedge against volatile fossil fuel prices, and reducing risks associated with future regulation to cut carbon emissions.

There are three primary types of PPA: a physical PPA, virtual PPA and a private wire PPA, where the renewable generation assets are on site. These approaches are explained over the next three pages.

> ***"PPAs provide a transparent and traceable route to procuring clean energy."***

PPAs: summary

- **Match requirements and real-time energy demand with renewable power generation**
- **High levels of transparency**
- **Reduce exposure to market volatility**
- **Procure sustainable energy on a competitive, flexible basis**
- **Directly support the generation of low-carbon, clean energy**

Physical PPA

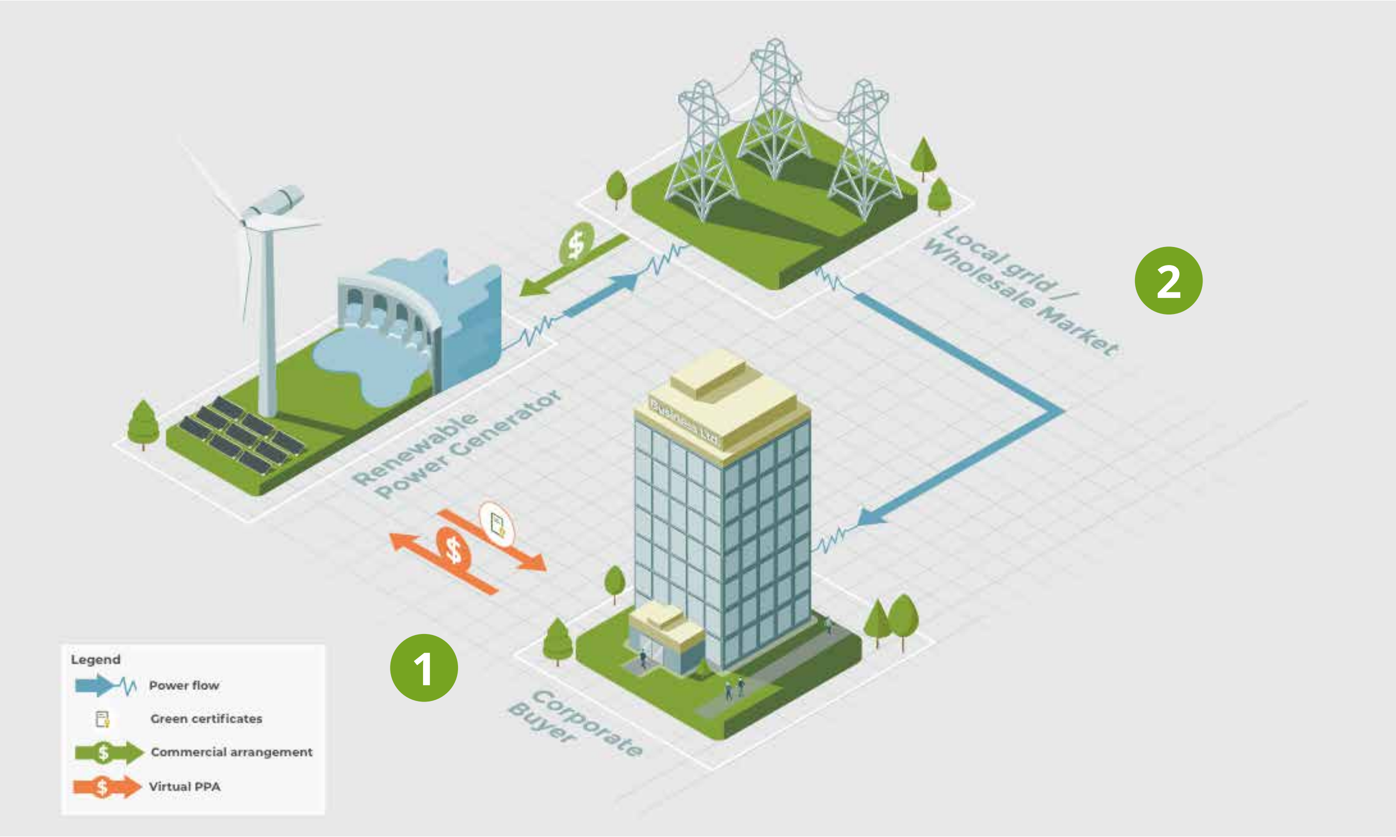
1. In a physical PPA, the corporate buyer takes title to the power generated by a renewable (seller), which is netted off the buyer's total electricity demand.

2. The power is physically delivered to the buyer from the seller — or via a retail service provider — depending on the market.

Where applicable in the relevant market, Green Certificates are bundled with the renewable power produced, proving power consumed is renewable.

Note: There may be differences to the structure outlined above, depending on the location and market.

Virtual PPA



1. In a virtual PPA (also referred to as a financial or synthetic PPA), the corporate buyer procures electricity from a renewable power (seller) at a negotiated rate — or strike price.

The power generated is sold into the local grid at the wholesale price.

2. The buyer and seller settle the difference between the agreed strike price and the local wholesale price, under a contract for difference (CFD) arrangement.

Where applicable in the relevant market, Green Certificates are unbundled from the renewable power produced, proving power consumed is renewable.

Note: There may be differences to the structure outlined above, depending on the location and market.

Private Wire

1. In a private wire PPA (also referred to as an onsite PPA or behind-the-meter PPA), renewable power is generated through onsite assets. This investment can either be made directly or a third party may be engaged to make the investment.

2. The power generated by the onsite assets is metered directly to the corporate buyer. This avoids power being consumed from the grid.

This approach provides the most direct link between the renewable source and power consumed, but can be limited due to site suitability.

Note: There may be differences to the structure outlined above, depending on the location and market.

What are the benefits of PPAs?

PPAs allow companies to contract directly with renewable power project developers to secure clean energy on a long-term contract. A PPA offers security of supply and ends energy price volatility, providing long-term certainty and transparency about the cost of energy.

Procuring green power can help to meet environmental commitments and initiatives, as well as regulatory requirements from local and national governments.

For companies keen to promote sustainability, there is the added benefit that PPAs enable project developers to build additional renewable capacity.

The CDP – formerly the Carbon Disclosure Project – is home to the largest collection of self-reported environmental data in the world, and is used by investors, customers and policy makers to calculate risks and make decisions. Accessing dedicated clean power through a PPA enables your company to trace its energy supply and disclose that data in confidence. This meets the reporting standards that many stakeholders expect.

PPAs are flexible, so can be adapted for your needs, including covering 100% of energy requirements for an agreed period of time or providing 24/7 renewable power supply.

PPAs: key points

Understanding what a PPA offers can help identify whether a PPA is the right fit for your business:

- **The ability to match your electricity requirements with tangible renewable power generation**
- **The ability to match your real-time power demand with a renewable and secure energy supply**
- **Full traceability for the clean electricity you buy**
- **Fix your energy costs, ending exposure to volatility in fossil fuel and utility pricing**
- **The scope to create new renewable capacity**
- **Meet sustainability obligations and expectations from customers, investors, employees and other stakeholders through verifiable emissions reductions**
- **Contribute to reducing the environmental risks from climate change**