



# Understanding **Renewable PPAs**

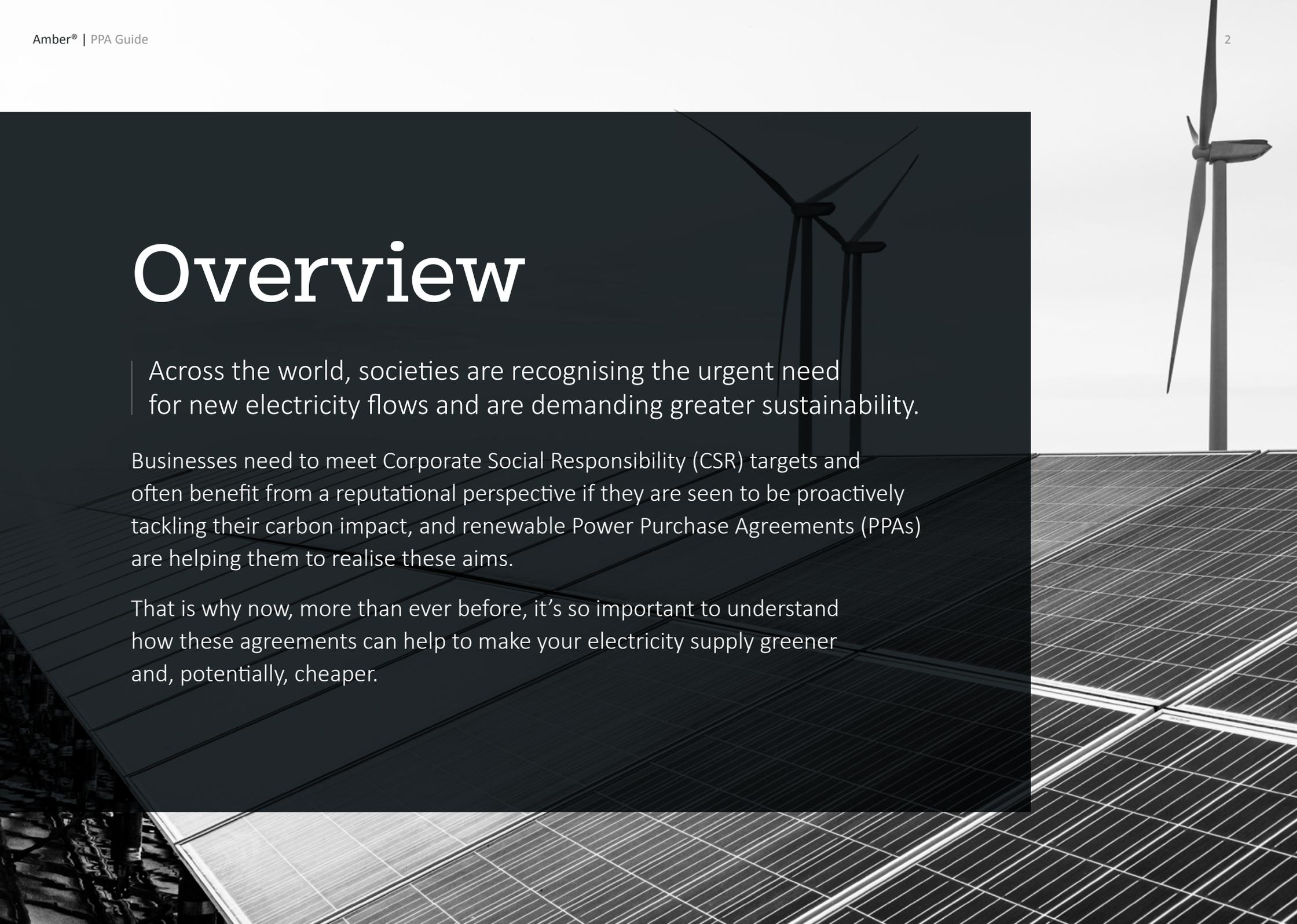
A guide for businesses – Version 2.0

# Overview

Across the world, societies are recognising the urgent need for new electricity flows and are demanding greater sustainability.

Businesses need to meet Corporate Social Responsibility (CSR) targets and often benefit from a reputational perspective if they are seen to be proactively tackling their carbon impact, and renewable Power Purchase Agreements (PPAs) are helping them to realise these aims.

That is why now, more than ever before, it's so important to understand how these agreements can help to make your electricity supply greener and, potentially, cheaper.



# Defining PPAs

A renewable PPA is typically a contractual agreement between an energy generator and a consumer, but they can also involve an energy supplier.

They come together and agree to buy and sell an amount of energy which is, or will be, generated by a renewable asset (e.g. solar panels or wind turbines).

Renewable PPAs allow companies to pay a fixed price for energy over a period of years, reducing exposure to volatile energy markets.

Depending on regulation and the market environment, different situations can arise in which PPAs are a stabilising factor in long-term power delivery.

## How long do PPA agreements last for?

PPAs are usually signed for a long-term period between 10-20 years. However there are circumstances where some generators will consider shorter periods (e.g. 5-10 years).

# The different types of PPA

There are three types of physical PPAs, with some overlap between them. One commonality they share is a fixed price of electricity that is sold and supplied in the PPA.

The big difference? How that electricity is supplied.

## **On-site PPA**

An on-site PPA is a direct physical supply of electricity, necessitating physical proximity of plant and consumer. An on-site PPA means that the generation plant is located behind the metering point of the consumer and may even be at the same location.

The consumption profile of the consumer usually dictates the specific installation and also the parameters of the PPA.

On-site PPAs allow electricity to be fed directly into the site without use of the distribution or transmission system, reducing the site's demand from the grid and removing expensive non-commodity costs from the equation. It also enables companies to potentially export their excess generation to the grid, providing additionality.

However, the requirement for space on the customer's site, or on a nearby site, is an obvious limitation (e.g. planning can be an issue if the site is close to a residential area).

# What is additionality?

Additionality describes the act of building new renewable energy generation assets which then increases the overall capacity of renewable generation.

## Off-site PPAs

Generally, off-site PPAs do not constitute a direct physical supply of electricity between the plant and a nearby consumer. It is merely an agreement to purchase a physical quantity of electricity at a specific price, as defined in the PPA.

A single plant can also enter into several PPAs with different customers, who are credited their share of the electricity production; although generators cannot sell the same electricity twice. The price for the electricity supply is negotiated in the PPA, meaning all participants have long-term price security, as long as that's provided for in the commercial arrangement.

## Sleeved PPAs

In a sleeved PPA, an intermediary, normally a supplier or its trading counterparty, handles the transfer of energy from the generator on behalf of the consumer.

**The supplier takes the energy directly from the generator and 'sleeves' it to the consumer's existing supply agreement.**

If the purchased renewable energy isn't enough to meet the consumer's energy needs, the utility is also responsible for supplying the additional power required; although the customer or the generator typically accepts the balancing risk.

# The non-physical alternative: Synthetic PPAs

Synthetic PPAs (also known as SPPAs) decouple the physical flow of electricity from the financial flow. This allows for even more flexibility in contractual arrangements.

In the case of SPPAs, generators and consumers agree on a price of electricity, just like a physical PPA, but the electricity is not physically supplied from the energy-generating plant to the consumer.

In the synthetic PPA, this electricity flow is now supplemented by what is known as a 'contract for difference'. In this contract, the PPA corporate customer will compensate the generator for the difference between the agreed fixed PPA price and a floating price, typically a spot market price. This means each party in the PPA has two payment streams: one with

the respective energy service, and one with the PPA contractual partner. In each case, the payments add up to the PPA price defined at the beginning and provide both sides with the desired price security.

Without direct physical delivery between the contracting parties, and with no direct balancing sheet link between them, this represents a simple and administratively low-cost alternative.

This form of agreement is also portable, meaning you are not tied down to an individual supplier.

# Why are PPAs so popular?

In the last five years there has been a big increase in companies entering into renewable PPAs. But why the big push?

- 1.** There is a sizeable commitment from large companies to reduce the amount of CO<sub>2</sub> produced by their activities. And, among these activities, there is the electricity produced for their own use. Therefore, these companies are turning towards more eco-responsible electricity supplies that produce less CO<sub>2</sub>.  
  
subsidy-free bids on wind and solar projects have entered some power markets from 2017 onwards and face higher merchant risks that can be managed with PPAs. Developers are also looking for ways to stabilise cash flows to increase leverage and stabilise return on equity.
- 2.** The cost of renewable energies and related technologies continues to decrease. PPAs are a way to stabilise cash flows for renewable energy projects that do not derive their revenues from regulated sources. Although renewables, in most power markets in Europe, still benefit from regulatory support,
- 3.** Electrification is an important factor to decarbonise industries that heavily rely on fossil fuels, such as manufacturing and transportation. In the future, sourcing power demand from renewables and managing the power price risk of renewable energy projects will be essential.

# The pros and cons of PPAs

## The pros

- Long-term price security and hedging opportunities beyond the liquid wholesale market.
- Opportunities to finance investments in new power generation capacities.
- Reduction of risks associated with electricity sales and purchases.
- Specific physical supply of electricity with certain regional characteristics.
- Control of guarantees of origin can occur.
- Makes brands more sustainable and greener.
- Can be signed at fixed prices or can allow for greater participation in market risks.

## The cons

- PPAs are typically bilateral and non-standard, therefore the negotiation process is longer.
- There isn't a liquid market for PPAs (though prices are available further out).
- Their long-term nature can be a disadvantage in the event of price developments that end up being negative for one party.
- Electricity production from wind and solar, carries an intermittency risk which has an associated cost.
- If the generator fails to deliver the volume under the terms of the PPA, or delivers too much volume the costs associated with balancing the system are typically shared with the customer.

# Investing in PPAs

Renewable generation assets are typically reliable investments; depending on the technology type and the predictability of both output and maintenance requirements, they can provide steady returns.

This has made them an increasingly attractive asset for investors. Some of the renewable subsidies and auctions have looked to de-risk them as an asset class and drive investment.

For a stand-alone generation asset (e.g. a wind or solar farm which is designed to connect to the grid), the capital cost to build will be predictable and the likely income reasonably well understood.

Some investors will seek a PPA as it will guarantee their returns; the more predictable the asset, the lower the return on investment the investor will require to agree a PPA.

For an on-site asset, the same principle applies in that an external investor will willingly fund a solar array to supply the offtaker.

The risk in these scenarios is more about the security of the offtaker than the market price.

Provided the asset owner is confident they will be paid for the energy produced, they will be willing to lend the funds to finance the asset construction.

# What is an oftaker?

An electricity oftaker refers to the party who buys the electricity produced by the generator. This might be an independent third party or an affiliate of the project sponsor.

# What our experts say

Renewable-backed corporate PPAs are an incredibly important tool in fast-tracking our transition towards a Net Zero economy for two main reasons.

Firstly, the renewable PPA provides the electricity generator with a long-term route to market for their product, at an agreed price, which in turn supports the financing of the assets in the scheme. That creates greater additionality and increases the contribution from renewables to the generation mix.

Secondly, renewable PPAs give consumers a way of achieving their own Net Zero objectives and aligning with their organisation's CSR policies, while at the same time providing them with a long-term power hedge for perhaps 10 to 15 years.

This wouldn't be possible if the consumer was only active in the wholesale traded energy market as liquidity is limited beyond 3 years. Renewable PPAs are also an essential risk management tool for consumers, providing long-term price certainty.

**Tim Whiting, Global Head of Lean Utilities at Amber**

# Find out more

With PPAs, your company can benefit from steady and predictable costs while improving your carbon footprint. Find out if a PPA could work for your business.



# Work with us

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