

# Private power purchase agreements: recent trends and developments

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Private power purchase agreements (PPAs) not only provide buyers with an opportunity to acquire environmental attributes, such as emissions offsets and renewable energy certificates, but can also be used to access certain regulatory incentives, such as investment tax credits and energy cost abatement programs.

## What you need to know

- As described in our [previous article](#), private PPAs are contracts between electricity generators and private buyers that allow the generators to hedge against future power price volatility, providing revenue certainty in certain electricity markets. These PPAs also allow the private buyers to acquire environmental attributes, such as emissions offsets and renewable energy certificates, which can be used to offset certain greenhouse gas emissions.
- In some cases, buyers can also use private PPAs to access regulatory incentives. For example, the federal government's clean hydrogen investment tax credit would provide incentives to hydrogen projects powered by clean energy, including with power obtained through a private PPA.
- In addition, participants in Ontario's Industrial Conservation Initiative may soon have the ability to reduce their global adjustment charges by entering into PPAs with renewable energy generators, which may create new opportunities for such developers in Ontario.
- Alberta has been a key market for corporate PPA buyers and sellers, thanks largely to its deregulated market. However, recent government actions, including the moratorium and recently announced policy around projects on agricultural lands and near pristine viewscapes, have created a degree of uncertainty for renewable energy projects in Alberta, though we expect the market for private PPAs in the province to continue to grow as these uncertainties are resolved.

## What is a PPA?

Private PPAs are agreements for purchase of electricity between a generator (the seller) and a private party purchaser (the buyer)<sup>1</sup>. They can be categorized as either physical or virtual PPAs.

In a physical PPA, the buyer obtains the actual electricity from the contract facility, which the buyer can use to power its own operations. The buyer will pay the seller an agreed-upon price per megawatt (MW) supplied.

In contrast, a virtual PPA is a financial agreement where the buyer does not acquire the electricity itself. Instead, the seller sells the electricity on the wholesale market at the market price. The virtual PPA functions as a contract for differences, based on a “strike price” for the power produced and sold into the grid. Where the market price is below the strike price, the buyer pays the seller the difference between the market price and the strike price. However, where the market price is above the strike price, the seller pays the difference to the buyer. Since the buyer does not physically receive the electricity, it will still have to procure electricity from its local grid to power its operations.

Both physical and virtual PPAs allow sellers to hedge against volatility in future power prices and provide stable power prices over the term of the PPA. This can help provide certainty to both generators and financiers making investment and lending decisions relating to electricity projects.

## PPAs, emissions offsets and renewable energy credits

In both physical and virtual PPAs for renewable electricity, the buyer will typically acquire the environmental attributes associated with the contracted electricity<sup>2</sup>. In some cases, these environmental attributes can be used for compliance with regulatory regimes. For example, under some GHG reduction regimes like Alberta’s TIER program, the carbon emissions displaced by a kilowatt hour (kWh) of renewable electricity can be credited as a carbon offset, which covered emitters can use to meet their obligations or otherwise monetize via sale to a third party.

Similarly, in some jurisdictions, the green benefit of the renewable energy generated can be certified as renewable energy credits (RECs), which can be used for compliance with a renewable portfolio standard (RPS) or sold to a third party. In these cases, the ability to convert any environmental attributes into compliance-grade offsets or RECs will depend on the rules establishing the GHG reduction regime or RPS, as well as the applicable technical methodologies, which vary by jurisdiction.

There may also be a voluntary market for the environmental attributes in jurisdictions that do not have regulatory GHG reduction regimes or RPS. For example, there are several voluntary standards that award credits to qualifying projects. Corporate buyers may wish to purchase these credits or the underlying attributes to help meet their emissions reduction commitments. Under the [GHG Protocol](#), the world’s leading corporate GHG accounting standard, companies can take a market-based approach to determining their Scope 2 emissions. In other words, whereas companies would normally determine their electricity use emissions with reference to the carbon intensity of the local electrical grid, the market-based approach allows those companies to claim emissions reductions that reflect any environmental attributes they own, provided they meet various carbon accounting criteria, such as the rule against double counting those attributes. Therefore, under GHG accounting rules, the contractual right to environmental attributes may help companies in achieving their Scope 2 emissions reduction commitments.

## Recent developments

Various governments across Canada have announced policies that may impact markets for corporate PPAs across Canada.

One of these policies is the federal government’s clean hydrogen investment tax credit (ITC), which provides a refundable tax credit for certain eligible expenses incurred for qualifying hydrogen production projects<sup>3</sup>. Because the tax credit rate is based on the assessed lifecycle carbon intensity of the hydrogen produced, hydrogen production that uses carbon-free electricity will qualify for a larger credit. In this regard, the ITC allows electricity procured through PPAs to be used in calculating the lifecycle carbon intensity of the hydrogen, provided that the clean hydrogen producer can show that (a) the electricity purchased under the PPA is for the operation of the hydrogen product project and was generated by a wind, solar or hydro generation facility, (b) the electricity is generated in the same province as the hydrogen production project, and (c) the electricity purchased under the PPA is for the operation of the hydrogen production project.

At the provincial level, in Ontario, Industrial Conservation Initiative (ICI) participants are required to pay a charge, called the global adjustment charge, based on their relative contribution to the top five peak hours of Ontario's electricity demand. The Ontario Ministry of Energy has [proposed amendments](#) to the governing legislation that would allow ICI participants to offset their facilities' electrical demand during those hours by entering into corporate PPAs with clean energy facilities, including those that are not connected behind the ICI participant's meter. This proposal, which [we discussed previously](#), could create a new avenue for ICI participants to reduce their global adjustment charges and create a new opportunity for renewable power generators in Ontario.

The Alberta electricity market has been a key market for PPAs over the past decade, starting with the Government of Alberta's Renewable Electricity Program (REP) in 2016. Since then, private PPAs have been behind an increasing number of new renewable energy projects, as buyers looked for new ways to meet their emissions reduction targets. However, in August 2023, the Government of Alberta announced it would be [suspending approvals of renewable energy projects](#) for several months. While the moratorium has ended, the Government of Alberta will be imposing [new restrictions on renewable energy projects](#), particularly projects located on certain classes of agricultural lands and near pristine views. The Government of Alberta is also developing changes to transmission policy, which could include changing how transmission costs are allocated and increasing the limits for generating unit owner's contribution<sup>4</sup>, and has directed the Alberta Electric System Operator to engage and design a restructured energy market, which may include negative power pricing, and market power mitigation measures aimed at reducing economic and physical withholding<sup>5</sup>. There remains a degree of uncertainty regarding the exact nature of these new policies and their impacts on the renewable energy industry in Alberta. However, we do not expect it to be a long-term impediment to the continued use of private PPAs to hedge against power price volatility and to allow buyers to procure environmental attributes to satisfy their environmental targets.

## What's next?

Activity in this area will continue to grow. As companies and governments continue to set ambitious net-zero emissions reduction targets alongside the rising price of carbon, companies in a wide range of sectors will increasingly look for opportunities to reduce and offset their own emissions, including through entering virtual PPAs. And as more companies see benefits and opportunities associated with private PPAs, demand for them will likely increase, potentially putting upward pressure on pricing available in the market and creating additional support for new energy generation projects across the country. In the meantime, companies will want to ensure that these PPAs—which function as both price hedges and emissions trading agreements—are structured and negotiated to ensure that they support the buyer, seller and lender's commercial objectives, regulatory requirements and corporate ESG commitments.

### FOOTNOTES

*To discuss these issues, please contact the author(s).*

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