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## ARTICLE

# Alberta's renewable electricity program: purchase options for businesses

Not a day goes by without a corporation making news by committing to use renewable electricity. Many Fortune 500 companies have worldwide renewable electricity targets as part of their corporate sustainability plans. There are several ways an Alberta business can acquire renewable energy.

## What you need to know

- Businesses in Alberta can acquire renewable electricity through existing green power options from retailers, buying electricity directly from a renewable generator or purchasing its own renewable electricity project.
- The simplest way for a business owner to buy renewable electricity is to use off-the-shelf green or renewable power options that retailers currently offer in Alberta.
- Businesses can acquire renewable electricity in Alberta directly from a renewable generator through a Power Purchase Agreement.
- A business owner can choose to have their own project to generate renewable electricity on a small scale using Alberta's micro-generation rules or on a larger utility scale.

## Purchase options for businesses

As the cost of wind and solar power generation decrease and the price on carbon emissions places upward pressure on electricity prices, companies are committing to use renewable electricity for economic reasons, as well as for corporate sustainability plans. For example, in July 2020 Microsoft announced its single-largest renewable energy investment with US energy firm Sol Systems to help the organization meet its goal of shifting to 100 per cent renewable energy by 2025 and becoming carbon negative by 2030.

According to BloombergNEF, further evidence of this phenomenon is that corporate purchases of renewable electricity jumped 44 per cent in 2019 to 19.5 GW, up from 13.6 GW in 2018 and 6.2 GW in 2017.

There are three main ways for a business in Alberta to acquire renewable electricity:

- Use existing green power options from retailers;
- Buy electricity directly from a renewable generator (the corporate PPA); and
- Own a renewable electricity project.

## Use existing green power options from retailers

The simplest way is to use the off-the-shelf green or renewable power options that Alberta retailers currently offer. Alberta already has competition in the retail segment of the province's electricity market and there are a number of retailers who offer a green power option.

Green electrons will not come to the office or plant of the business, as the business will continue to draw its power from the grid like every other consumer in Alberta. However, these retailers generally enter into contracts to purchase the renewable benefits of a renewable project's electricity – Renewable Energy Certificates (RECs) – that are certified by an independent body. Retailers then sell the RECs to customers who want the green power option. The RECs' acquisition cost is bundled with the electricity cost to determine the full cost to the business. The retailer then retires the RECs so that no other consumer can use the same one. The net effect is that the business indirectly supports renewable electricity projects by acquiring the RECs that its retailer has paid to get from a renewable electricity project.

This REC approach is similar to how retailers and utilities in other jurisdictions offer green power options to their electricity consumers. It has been going on in different jurisdictions for about 20 years and, as far as we know, the Alberta green product offering is not unique.

However, retailers in other jurisdictions have attempted to breathe new life into the traditional REC method of providing green power. The retailer started to identify proposed local renewable electricity projects that needed financing help. It then entered into long-term agreements with the best projects and sold its green power option to customers on the basis that they were helping these identified projects become a reality. In other words, the retailer personalized the RECs and created a tangible connection between the green power consumer and the local projects. The retailer used RECs as a way for its customers to help local projects become financed and built – a green sales story that might resonate with some business consumers in Alberta.

## Buy electricity directly from a renewable generator (the corporate PPA)

Businesses can acquire renewable electricity in Alberta directly from a renewable generator. However, all electricity that is not consumed on site in Alberta must be exchanged in the Alberta Power Pool. This purchase and sale of electricity cannot be a bilateral point-to-point sale but instead needs to be structured as either a financial PPA or a physical PPA, as it is called in Alberta, completed by way of Net Settlement Instructions (NSI). Both are synthetic transactions in the sense that neither result in the actual delivery of electrons by the renewable generator to the business, while delivery of the renewable electricity is notional only.

A financial PPA (often called a contract for differences) involves a flow of cash between the renewable generator and the business. The following are some financial terms that the parties might negotiate, though the terms of each financial PPA would be tailored to meet each side's business objectives:

- The business and renewable generator agree on a term and a quantity of electricity. This could be a fixed amount, be all of the project's generation or be based on the business's electricity consumption, perhaps with a minimum volume. The business could acquire the RECs related to the renewable electricity. The parties then agree on a price per MWh, with perhaps an escalator/indexation over the term, called the strike price. The business agrees that if the strike price for the contracted volume of electricity for one hour is greater than the pool price, then it will pay the renewable generator the difference. Similarly, the renewable generator agrees that if the strike price for one hour is less than the pool price, it will pay the business the difference. At the end of each month, the aggregate net hourly difference is calculated and paid by one party to the other.
- There is no physical exchange of power between the business and renewable generator. The generator would settle with the Alberta Electric System Operator (AESO) and be paid directly by the AESO for the renewable electricity it delivered to the grid based on the hourly pool prices. Similarly, the business would settle and pay the AESO for the electricity it consumed from the grid based on the hourly pool prices, though a business could enter such a financial PPA without having any operations in Alberta. The parties then settle amongst themselves by one party paying the other an amount representing the aggregate net hourly difference between the agreed upon strike price and pool prices in that month.
- Both parties have converted the floating pool price for electricity in Alberta into a fixed price for the term. Therefore, assuming the business is creditworthy; a financial PPA could provide the renewable generator with the price certainty or hedge it needs to finance a new renewable project to make its project bankable. This makes a financial PPA with a business or corporation an alternative to participation in Alberta's Renewable Electricity Program (REP), which closed to new applications in June 2019. The financial PPA is much like the Renewable Electricity Support Agreement that the AESO offered in the REP but with a corporate or business counterparty instead of the AESO.
- By contrast, the physical PPA completed by way of NSI in Alberta is simply a twist on the financial PPA and not a true physical sale of electricity. This avoids the renewable generator and the business from separately having to settle with the AESO first for the contracted electricity before settling the difference with each other. Instead, the parties settle directly between themselves for the contracted volumes at the full contracted price. The AESO is not provided with the agreed price in the registered NSI, just the MW sold in order for it to "net" against the actual metered volumes of each party. We generally only see this type of physical PPA from generators with large creditworthy consumers of electricity in Alberta who can meet the credit requirements of the generator.
- BluEarth Renewables' 29 MW Bull Creek Wind Facility is an example of an Alberta renewable electricity project that was financed and constructed using corporate renewable PPAs. In that case, 25 rural Alberta school boards came together through the Alberta Schools Commodities Purchasing Consortium to enter into 25-year corporate renewable PPAs with BluEarth for the electricity from that renewable electricity project.
- Bull Creek shows how a consortium or cooperative can be formed of smaller consumers to generate the electricity demand to make a corporate renewable PPA feasible. Small and midsize companies can do these deals.

## Own a renewable electricity project

A business can also choose to own its own project to generate the renewable electricity it wants to acquire in Alberta. This can be done on a small scale using Alberta's micro-generation rules, or on a larger utility scale, either alone or as part of a joint venture.

Alberta made changes to its micro-generation rules in 2016, which provide incentives for renewable electricity projects of up to five MW. The changes also permit a micro-generation project to service neighboring buildings of an owner - for example, buildings owned by a university, a large farm or a municipality. These micro-generation rules allow businesses to generate their own electricity and sell any surplus electricity directly into the grid. The Alberta incentives include subsidizing interconnection and load settlement costs and installing a free net bi-directional meter for a micro-generator.

If the micro-generation a business installs is solar photovoltaic (PV) and the customer is a municipality, the business may be able to take advantage of the [Alberta Municipal Solar Program](#).

Of course, if the business is large, it may want to own a larger renewable electricity project in Alberta. IKEA and Suncor are two businesses that took that route.

In January 2017, IKEA announced it had purchased its second wind farm in Alberta, the 88 MW Wintering Hills Wind Farm near Drumheller, for \$119.6 million from TransAlta and Teck Resources. IKEA bought its first 46 MW wind farm in Pincher Creek in 2013. IKEA now has the ability to produce renewable electricity in Alberta that is more than four times the total electricity consumed at its 12 Canadian stores. IKEA contracts out the operation of these wind farms to a third party operator. With these two wind farms, IKEA is closer to achieving its worldwide target of, by 2030, producing more renewable electricity than what it consumes.

Similarly, Suncor owns a share of the 30 MW Chin Chute Wind Farm and the 30 MW Magrath Wind Farm in Alberta, and also has two Alberta wind projects under development listed on the AESO Project List.

## Final thoughts

Climate change is high on corporate agendas around the world. Numerous companies are making commitments to improve sustainability practices by acquiring renewable electricity. It is also starting to make economic sense.

Alberta has some of the best wind and solar resources in Canada. If you look at [the AESO Project List](#), you will see that excellent local, national and international developers have about 120 renewable electricity projects under development in Alberta. Therefore, it seems that there is potential for marriages to be made in Alberta between renewable developers and businesses seeking renewable electricity. Yes, the economics have to work and there are price, consumption, variable generation, curtailment, counterparty, collateral security and regulatory risks to be weighed but there are great options, as well as excellent professional, financial and industry expertise available in Alberta for businesses to acquire renewable electricity.

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