RECs, Corporate PPAs and Other Ways to Acquire Renewable Electricity in Alberta

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Not a day goes by without a corporation making news by committing to use renewable electricity. Walmart, Google, Microsoft, Facebook, Starbucks, and Amazon all have worldwide renewable electricity targets as part of their corporate sustainability plans. As the cost of wind and solar power generation decrease, and the price on carbon emissions puts upward pressure on electricity prices, these companies are also committing to use renewable electricity for economic reasons. For example, late last month Microsoft announced that it would pay its utility provider, Puget Sound Energy (PSE), $23.6 million so that Microsoft could shift 80 percent of the electricity used on its campus in the State of Washington to renewable sources purchased directly from renewable project developers because PSE was not able to provide Microsoft with the quantity of renewable electricity that it needed to meet its goal.

Further evidence of this phenomenon is that according to the American Wind Energy Association, corporate renewable electricity buyers accounted for 52% of the wind generating capacity sold using power purchase agreements (**PPAs**) in 2015 – up from 23% in 2014 and just 5% in 2013.

This got our legal team here at AlbertaPowerMarket.com thinking about Alberta, and the different ways we see in this province for a business to acquire renewable electricity.

Use Existing Green Power Options from Retailers

The simplest way is to use the off-the-shelf green or renewable power options that retailers currently offer in Alberta. Alberta already has competition in the retail segment of the Alberta electricity market, and there are a number of competitive retailers who offer a green power option in Alberta, including Direct Energy, ENCOR and ENMAX.

Green electrons will of course 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. But, what these retailers generally do is enter into contracts to purchase the renewable benefits of a renewable project's electricity – called Renewable Energy Certificates (RECs) – that are certified by an independent body. The RECs are then sold by the retailers 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 RECs. The net effect is that the business is indirectly supporting renewable electricity projects by acquiring the RECs that its retailer has paid to acquire from a renewable electricity project.

This REC approach is similar to the way 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 there is nothing unique as far as we know about the Alberta green product offering.

However, we recently read about a retailer in another jurisdiction trying 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 help getting financed. 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 greater 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 get financed and built – a green sales story that might resonate here in Alberta with some business consumers.

Buy Electricity Directly from a Renewable Generator (the Corporate PPA)

Businesses can acquire renewable electricity in Alberta directly from a renewable generator. However, since 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 (i) a financial PPA, or (ii) what is called in Alberta a physical PPA 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 – 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 (say 15 years) and a quantity of electricity (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 also 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 – this is called the strike price. The business agrees that if the strike price for the contracted volume of electricity is greater than the Pool Price for an hour then it will pay the renewable generator the difference. Similarly, the renewable generator agrees that if the strike price is less than the Pool Price for an hour it will pay the business the difference. At the end of each month, the aggregate net hourly difference over the month is calculated and paid by one party to the other party.

Note that 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 directly paid 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 it should be noted that a business could enter such a financial PPA without having any operations in Alberta. The parties then settle up 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 – in effect, to make its project bankable. This makes a financial PPA with a business or corporation an alternative (or supplement for a portion of a project) to participation in Alberta's REP Round 1 renewable procurement. The financial PPA is much like the Renewable Electricity Support Agreement that the AESO is offering in REP Round 1, 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 – not a true physical sale of electricity. The twist is that the business and renewable generator register a NSI with the AESO directing the AESO to exclude the contracted quantity of electricity from the business's metered consumption and the renewable generator's metered generation. 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 being done by 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 it was 25 rural Alberta school boards that 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. You do not have to be Google – small and mid-size companies can do these deals. For example, one idea might be to explore how a community renewable electricity project could be built based on renewable PPAs with the community's electricity consumers. Another idea might be for a number of energy companies to form a consortium and enter into a renewable corporate PPA with a proposed renewable project to enable the project to be financed and constructed. The renewable project gets built and, in turn, the energy companies get long-term fixed price electricity from a renewable source.

Own a Renewable Electricity Project

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

Alberta recently made changes to its micro-generation rules which now provide incentives for renewable electricity projects of up to 5 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 permit businesses to self-generate their own electricity but sell any surplus electricity directly into the grid. The Alberta incentives include the subsidization of interconnection and load settlement costs, and the installation of a free net bi-directional meter for a micro-generator.

In addition, if the micro-generation being installed by a business is solar photovoltaic (PV) the business may be able to take advantage of some of the new Alberta solar rebates that we discussed earlier here. For example, the Alberta government recently announced its Residential and Commercial Solar Program (RCSP) launching this summer to fund up to 25% of the cost for businesses to install solar systems on their own facilities. The RCSP is expected to fund 75 cents for each watt of solar PV installed.

Of course, if the business is large, it may want to actually own a larger renewable electricity project in Alberta. IKEA and Suncor are examples of businesses that have opted for that route.
In January of this year, IKEA announced that it had purchased its second wind farm in Alberta, the 88 MW Wintering Hills Wind Farm near Drumheller, from TransAlta and Teck Resources for $119.6 million. This is the second wind farm for IKEA in Alberta, it having acquired 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 that it consumes at its 12 stores in Canada. The operation of these wind farms has been contracted out by IKEA to a third party operator. IKEA must have concluded that Alberta is a place where it can economically acquire some of the renewable electricity it needs to achieve its worldwide target of producing more renewable electricity than the electricity it consumes by 2020.

Similarly, Suncor owns a share of the 30 MW Chin Chute Wind Farm and the 30 MW Magrath Wind Farm here in Alberta, as well as having 7 Alberta wind projects and 3 Alberta solar projects under development and listed on the AESO Project List. It is reasonable for us to expect that Suncor will bid one or more of these projects under development into the REP Round 1 renewable procurement currently underway in Alberta.

Climate change is high on corporate agendas around the world. Numerous companies are making commitments to improve their 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 90 renewable electricity projects under development in Alberta – more projects than REP Round 1 and future REP rounds will likely support. It seems to us, therefore, that there is the 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 and excellent professional, financial and industry expertise available in this Province for a business looking to acquire renewable electricity.

Kent and Bill both practice law in the Electricity Markets Group at the Calgary, Alberta office of the national law firm Borden Ladner Gervais LLP. They are regular contributors to the postings made each Monday morning to AlbertaPowerMarket.com.

By

Kent D. Howie, Bill Woodhead

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BLG Offices

Calgary
Centennial Place, East Tower
520 3rd Avenue S.W.
Calgary, AB, Canada
T2P 0R3

T 403.232.9500
F 403.266.1395

Ottawa
World Exchange Plaza
100 Queen Street
Ottawa, ON, Canada
K1P 1J9

T 613.237.5160
F 613.230.8842

Vancouver
1200 Waterfront Centre
200 Burrard Street
Vancouver, BC, Canada
V7X 1T2

T 604.687.5744
F 604.687.1415

Montréal
1000 De La Gauchetière Street West
Suite 900
Montréal, QC, Canada
H3B 5H4

T 514.954.2555
F 514.879.9015

Toronto
Bay Adelaide Centre, East Tower
22 Adelaide Street West
Toronto, ON, Canada
M5H 4E3

T 416.367.6000
F 416.367.6749

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