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Corporate Buyers — Influencing Change in Renewable Energy

Energy and Public Utility

Environmental

CHEAT SHEET

- ***Keen for green***. Multinationals like Walmart, AT&T and HSBC are making renewable energy commitments
  and establishing on-site renewable energy projects.
- ***Setting the tone***. Unsatisfied with driving change from the demand-side, companies are increasingly engaging in policy advocacy to better their access to renewable energy.
- ***Spoiled for choice***. Corporate buyers seeking to expand their procurement of renewable energy should investigate on-site generation, power purchase agreements, green tariff programs or renewable energy certificates.
- ***A warm regulatory environment***. Renewables are increasingly easy to obtain thanks to relaxing standards governing on-site renewable generation, bounteous tax credits and feed-in

tariffs for solar.

Companies are investing in renewable energy because it enables them to reduce greenhouse gas (GHG) emissions and demonstrate leadership on broader corporate sustainability and climate commitments. In addition to the marketing and reputational benefits, renewable energy also can make economic sense as it provides the assurance of a reduced long-term fixed electricity price, a significant component of their operating costs.

Although a number of corporate buyers have successfully acquired electricity from renewable energy sources, there are some market and transactional limitations that are providing challenges in meeting their goals.

In-house lawyers at such companies, as well as those at the utilities and independent power producers that sell power to such buyers, are integral to achieving the desired business goals. As a key member of the negotiation team for the renewable power sale arrangements, in-house lawyers assess the many inherent legal and regulatory considerations. Lawyers would also be actively involved in other related aspects of these transactions, such as project development, construction, financing and possibly acquisitions.

Who are these corporate buyers?

Fifty-nine percent of the Fortune 100 and nearly two-thirds of the Global 100 have set GHG emissions reduction commitments, renewable energy commitments or both. Among the combined Fortune 100 and Global 100 companies, two dozen have set public, voluntary renewable energy commitments. These include well-known global companies such as AT&T, Dow Chemical, General Motors, Google, HSBC, Procter & Gamble, Volkswagen and Walmart.

Some examples include:

- Walmart, which is the largest on-site renewables user in the United States with more than 300 renewable energy projects in operation or under development worldwide. Twenty-four percent of Walmart's electricity usage comprises renewable sources of electricity, but it aspires to 100 percent by 2020, which would equate to seven billion kilowatt hours (kWh) of renewable energy globally by Dec. 31, 2020.
- Google, which now has the distinction of being the largest corporate renewable energy purchaser in the world (buying the equivalent of over 1.5 percent of the installed wind power capacity in the United States).
- Ikea, which has committed close to $1.9 billion to renewable energy technologies through 2015. In addition to installing rooftop solar panels at almost 90 percent of its US stores, IKEA has also bought two wind farms.

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Similarly, universities have been active in securing renewable electricity sources. Since 2007, the

American Colleges and Universities Presidents' Climate Commitment has encouraged nearly 700 institutions of higher education to commit to achieving carbon neutrality within a defined timeframe. In September 2014, the University of California announced an 80 MW procurement contract for off-site solar photovoltaic (PV) electricity, making it the largest power purchase agreement ever signed by a university. At least three other universities in the United States have each also secured approximately 50 MW of electricity from solar or wind generation resources.

More than one way to purchase renewable power

Lawyers are often heavily involved in understanding the multiple options available to commercial buyers to purchase renewable power in each jurisdiction. Similar to residential users, commercial buyers of electricity traditionally buy their electricity from distribution utilities via the electrical grid, paying the current rate for power consumed by the business. In addition to being price-takers, these purchasers are technology-takers, as they must accept whatever mix of electricity sources the distribution company provides. See further information in Electricity 101 below.

Commercial buyers who seek to supply their business with renewable power have the following main options.

On-site generation

Some businesses have decided to generate electricity on-site near their offices or other buildings, often using solar panels. A business may decide to develop and operate the on-site generation directly or through a contract with a third party. However, due to siting constraints and sun or wind resource availability, typically only a limited amount of power can be generated by on-site renewable resources.

Companies that have successfully implemented on-site renewable generation include Walmart and Ikea, both of which have placed solar panels on the top of many of their large warehouses and stores. Similarly, Google recently announced plans to open their new data center in Alabama on the grounds of a coal power plant that is being shut down, and has said that the data center is expected to run on solar or wind power.

However, for companies that don't own large tracts of real estate, have multiple locations, or who prefer not to deal with energy installations, on-site generation is not a viable option. Even those companies that have on-site generation may require more power to operate the entire business.

Power purchase agreements

In some jurisdictions, companies can purchase power directly from renewable power generators under a power purchase agreement (PPA). This is a contract requiring the generator to sell electricity to the customer for a negotiated price. Under these arrangements, companies agree to buy power produced from a specific renewable generation site over a period of time – often five, 10, 15 or more years.

Unlike on-site generation, due to the characteristics of electricity and the limitations of some power markets, businesses that buy power under a PPA are unlikely to be consuming electricity exclusively sourced from renewable power. However, they will generally enter into these PPA arrangements as it will often result in the building of new renewable power projects to supply that buyer, and thus

increases the amount of electricity generated by renewable sources overall.

The PPA is essentially financing a new generating facility that a project developer is unwilling or unable to build and operate without a PPA. PPAs are attractive for generators and their lenders, as long-term PPAs with creditworthy customers provide a guaranteed revenue stream.

Some corporate buyers may also enter into PPAs from existing renewable generating sites as it will maintain or enhance a renewable source of power in the system.

Virtual PPAs

Some corporate buyers are located in jurisdictions with laws that prohibit the sale of electricity from a party other than the local utility. These parties can enter into PPA arrangements that don't result in a physical flow of electricity from the generator to the customer, often called virtual PPAs.

By entering into a virtual PPA, a corporate buyer would agree to pay an agreed upon price for its electricity. The renewable energy project sells the generated power to the utility or into the short-term wholesale market, often at a variable market-determined rate. The differences between the PPA price and the market price are netted, with the end result being the corporate buyer pays the agreed upon price, regardless of what price the generator received from the utility or market. Essentially, this is a financial hedge or swap, often called a "contract for differences."

Utility green tariff programs

Corporate buyers in some jurisdictions can also purchase renewable power under "green tariff " programs established by the local utilities. Depending on the program, a customer may specify that their purchase of electricity be produced by one or more of the utility's renewable energy-generating projects. This essentially requires utilities to have sufficient renewable generation in the system to meet the tariff requirements and satisfy the customer's desire for access to renewable power. The green tariff programs can provide a quick and simple option to purchase renewable power, requiring limited internal expertise and costs for corporate buyers.

In early 2015, the California Public Utilities Commission approved the implementation of legislation creating the Green Tariff Shared Renewables Program, which requires the state's large utilities to develop the following two types of clean energy customer options:

- A "Green Tariff," which will give customers the option of paying the difference between their current generation charge and a charge that reflects the cost of procuring 50 to 100 percent eligible renewable generation for their electricity needs.
- An "Enhanced Community Renewables" program, which will give customers the option of purchasing share of a local eligible renewable project directly from a developer, and in exchange will receive a credit from their utility for the customer's avoided generation procurement and for their share of the benefit of the development to the utility.

However, green tariff programs are only in a limited number of jurisdictions and some programs merely charge businesses for the cost of renewable energy credits.

Renewable energy certificates

Renewable energy certificates, known as RECs or green credits, are a more common mechanism for corporate buyers to build a renewable energy portfolio. RECs are a market-based means of tracking who produces and uses renewable energy. They are proof that electricity was generated from an eligible renewable energy resource.

In US jurisdictions that have a REC program, an eligible green energy generator (such as a wind farm) is credited with one REC for every 1 MWh of electricity it produces. Once the green energy is fed into the electrical grid, the accompanying certificates can be sold, traded or bartered. The owner of the REC can then legally claim to have a renewable energy product to use as an offset of the physical non-renewable power consumed in its business.

RECs are considered by some buyers to be a less desirable option. Although they are fairly easy to purchase, they do not result in the customer purchasing electricity from a renewable source or fixing their electricity costs. Companies also increasingly feel that RECs may not be increasing new investments in renewable energy.

Walmart states that, “While REC purchasing may allow us to more quickly say we are supplied by 100 percent renewable energy, it provides less certainty about the change we’re making in the world. Walmart’s preference is not to purchase standalone RECs to offset our nonrenewable power consumption . . . . [W]e do not have confidence that offsetting instruments alone are sufficient to drive new renewable projects, as opposed to simply shifting around ownership of existing renewable electrons.”

IBM is also more interested in purchasing power rather than buying RECs. “We intend to match our purchased renewable electricity directly to our operations, as opposed to purchasing RECs as offsets, making a clear connection between our purchases and consumption,” said Wayne Balta, vice president of corporate environmental affairs and product safety for IBM in March 2015.

Electricity 101

Electricity is generated through the conversion of energy sources, like coal, natural gas, oil, nuclear power, hydro, solar and wind. As of 2011, an estimated 21 percent of the world’s electricity is generated from renewable energy resources (13 percent in the United States in 2014). Although the energy sources used to make electricity can be renewable (such as hydro, wind or solar), electricity itself is neither renewable nor non-renewable. Once generated, electricity cannot be stored and must be used quickly. Electricity usually flows on a transmission or distribution system (grid), which is an interconnected group of power lines and related equipment. Once it enters this interconnected electrical grid, electrons from all energy sources are co-mingled together and can no longer be differentiated. These electricity systems move electric energy at high voltage, delivering power to customers who are not directly connected to an energy source (i.e., generator). In the United States, investor-owned utilities own over 50 percent of net generation of electricity. Public-owned utilities and cooperatives, along with the federal power agencies, account for approximately 25 percent of net generation. Independent power producers account for the remaining 25 percent of net generation. An average residential customer in the United States consumes about 900 kWh in a month (10,800 kWh per year).

Data source: http://energy.gov/; http://www.eia.gov/

A changing world

These arrangements are a new experience for most corporate buyers and utilities. Businesses more commonly buy power from utilities or retail energy providers under a short-term contract (one year or less), or at the regulated rate without a fixed contract and without specifying the source of generation.

Similarly, these corporate buyers are a relatively new market for independent power producers (non-utility generators). Although some generators sell their power to nearby large industrial businesses, such as paper mills, mines and manufacturers, generators typically enter into PPAs with utilities and government-authorized power authorities at a negotiated, auctioned or regulated rate. Power not sold under a PPA can, in some jurisdictions, be delivered into the electrical grid at a price determined by a short-term wholesale market.

Policy, regulatory and procurement challenges

The business case for adding more renewable energy resources to the electricity supply mix is highly influenced by various government policies. Policies are inconsistent and can quickly change to address other political and economic concerns. As well, electricity markets have many different features, including some that allow retail purchases by other energy providers and other markets to require all electricity purchases be made through the local utility. The lack of strong, consistent and long-term policies and flexible market structures can create uncertainty regarding the price and availability of renewable energy for corporate buyers.

In order to meet their corporate sustainability commitments and invest in renewable energy, companies are increasingly engaging in policy advocacy to expand their access to renewable energy and reduce costs.

In July 2014, 34 large corporations published the Corporate Renewable Energy Buyers' Principles, which frame the challenges and common needs faced by large renewable energy buyers. These 34 corporations need 20 million megawatt hours of renewable energy — enough to power over 1.8 million homes — just to meet their near-term goals.

They developed these principles to spur progress on resolving the challenges they face when buying renewable energy, and to add their perspective to the future of the energy and electricity system. The World Wildlife Fund (WWF) and the World Resources Institute (WRI) facilitated their efforts.

David Gardiner & Associates, in a report entitled "Power Forward: Why Are the Largest Corporations Investing in Renewable Energy" commissioned by WWF, Calvert and Ceres to review corporate renewable energy and climate commitments, identified the following recommendations for policy makers to increase access to renewable power generation:

- US policies that promote renewable energy, like the Production Tax Credit (PTC) for wind or feed-in tariffs for solar, should be extended. The PTC in particular has enabled the wind industry to dramatically slash energy costs, which eliminates an important barrier to purchasing renewable energy. Allowing the PTC to expire will immediately raise prices for companies committed to buying renewable energy.
- State utility regulators should authorize the use of third-party PPAs and remove policies that limit the development of on-site renewable power generation. At the time of the report, PPAs

were not allowed or are otherwise restricted in Florida, Georgia, Iowa, Kentucky and North Carolina.

- Renewable Portfolio Standards (RPSs) should be enacted in all US states, either through state legislatures or through a federal RPS. An RPS requires utilities to procure a minimum amount of electricity from renewable sources. In the 30 states and Washington, DC, where they currently exist, governors and state legislators should strengthen and expand RPSs.
- Because the Fortune 100 and Global 100 operate internationally, policies such as feed-in tariffs and renewable energy mandates are needed to kick-start renewable energy industries, particularly in emerging markets. Many countries critical to global supply chains have fledgling renewable energy markets that require stable support and clear policies. In other markets, like China, voluntary green power markets do not yet exist, and incentives and market structures must be created.
- Ultimately, policies that enable deeper cost reductions to level the playing field with conventional energy sources are needed. These include market-based solutions that price negative externalities and allow businesses to find the most cost-effective measures to achieve their GHG and renewable energy commitments.

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In addition to policy issues, buyers are finding the procurement process challenging. In recognition of that, in February 2015, Rocky Mountain Institute launched The Business Renewables Center (BRC) as a collaborative platform that strives to remove the main obstacles preventing corporations from building renewables into their energy profiles. The collective goal is to add another 60 GW of wind and solar capacity to the grid by 2020-2035, which is equivalent to 600 PPAs of 100 MWs each. Founding members of BRC are corporate renewable energy buyers, renewable energy project developers and transaction service providers. The founding corporate buyers bring in more than US$500 billion in revenue and consume more than 25,000 GWh of electricity annually. They include Bloomberg, eBay, GM, HP, Kaiser Permanente, Nestlé Waters North America, Owens Corning, Salesforce and Sprint.

The BRC is supported by three organizations (WWF, WRI and Business for Social Responsibility) and some of the same companies involved in the Corporate Renewable Energy Buyers' Principles.

"The root cause of the problem is that corporate buyers are, for the most part, 'occasional buyers,' while sellers are project developers accustomed to dealing with experienced utility buyers, for which electricity is the core business," noted RMI in a brochure for the center. BRC's plan is to influence the creation of a more standardized approach.

Corporate Renewable Energy Buyers' Principles outline six criteria that they believe would significantly help companies meet their ambitious purchasing goals:

1. **Greater choice in procurement options**
2. **More access to cost competitive options**
3. **Longer- and variable-term contracts**
4. **Access to new projects that reduce emissions beyond business as usual**
5. **Streamlined third party financing**
6. **Increased purchasing options with utilities**

Conclusion

These large corporate buyers aim to influence change in the electricity buying experience. Given their large electricity needs, corporate buyers, as well as their customers and environmental groups, are paying close attention to their environmental sustainability goals and results.

Corporate buyers often have significant political and social influence. Their activities are shaping electricity policies and programs, especially for governments wishing for these large corporations to invest in their jurisdiction. Utilities and their regulators are showing an increasing interest in collaborating with large customers to address the limitations and to design new purchase options for corporate buyers. Renewable energy generators are also considering options that they can offer and working with the corporate buyers to deliver solutions.

As more renewable energy projects are developed and the regulatory regimes in various jurisdictions evolve, there will be even greater opportunities for buyers and sellers of electricity from renewable sources. Changing how customers can access electricity derived from renewable sources can be a positive change for both customers and renewable power generators.

Checklist

There are a number of factors to consider when deciding how to obtain electricity from renewable sources, including:

- **Location / proximity of resource**
- **Counterparty**
    - **Local utility**
    - **Independent power producer**
    - **Self-own / special purpose affiliate**
- **Price / cost**
- **Term duration**
- **Amount — All power generated vs specific amount**
- **Product — physical vs financial; electricity vs credits**
- **Technology — solar; wind; hydro**
- **Level of engagement**
    - **Purchase vs. operate**
    - **Policy / advocacy engagement**
    - **Procurement expertise**
    - **Staffing and oversight role**
- **Level of risk**
    - **Delivery risk**
    - **Regulatory risk**
    - **Price risk**

Further Reading

Power Forward: Why the World’s Largest Companies Are Investing in Renewable Energy. Report by Calvert Investments, Ceres and WWF. Prepared by David Gardiner & Associates, LLC. [“Power Forward”]

Yahoo!, Salesforce, Workday, Digital Realty, Arup, Genentech, Autodesk, Hilton, Kaiser Permanente, Unilever, Target, IKEA, Staples, BD, IO, Adobe, Bloomberg, Cisco, eBay, EMC, Facebook, General Motors, Hewlett-Packard, Intel, Johnson & Johnson, Mars, Novelis, Novo Nordisk, Procter and Gamble, Recreational Equipment Inc., Sprint, Walmart, Volvo and 3M.

Patricia Bood

Legal Executive

Brookfield Renewable Energy

Patricia Bood is an experienced legal executive for an independent power producer, and former senior vice president, legal services, and general counsel at Brookfield Renewable Energy.