

# EXPANDING CORPORATE ACCESS TO ADVANCED ENERGY

Policies to Meet Growing Demand from Corporate Buyers

By Advanced Energy Economy

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## About Advanced Energy Economy

Advanced Energy Economy (AEE) is a national association of businesses and business leaders who are making the global energy system more secure, clean and affordable. Advanced energy encompasses a broad range of products and services that constitute the best available technologies for meeting energy needs today and tomorrow. AEE's mission is to transform public policy to enable rapid growth of advanced energy businesses. AEE and its State Partner organizations are active in 27 states across the country, representing roughly 1,000 companies and organizations in the advanced energy industry.

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# EXECUTIVE SUMMARY

A growing number of companies across the country are taking steps to procure advanced energy by sourcing large offsite wind, solar, and hydropower facilities, installing rooftop solar, and increasing their use of demand-side technologies and services like energy efficiency, demand response, and advanced energy management. These efforts translate into significant market activity: Corporations have purchased over 8 gigawatts (GW) of renewable energy from offsite projects since 2012, and the leading corporate onsite solar users installed over 1 GW of solar at their facilities by the start of 2016.<sup>1</sup> Companies have also increased their reliance on energy storage, and have indicated a widespread intention to increase investments in energy efficiency.<sup>2</sup>

Companies have a variety of motivations for pursuing advanced energy—ranging from cost savings to price certainty to corporate sustainability goals—and they have varied needs when it comes to key parameters such as resource type, contract length, contract structure, and more.

The landscape of options to meet these different needs varies by state. As energy becomes an increasingly important consideration for corporate America, these options matter, particularly when a company is looking to expand or move its operations. While some of the variations relate to resource availability (e.g., the strength of a state's wind or solar resource), many are a function of policy.

But policies can change, and there are proven ways to open up purchasing options to meet corporate needs. This guide from Advanced Energy Economy (AEE) is intended to introduce policymakers to the opportunities and barriers that companies face in their energy decisions, and provide solutions that will expand corporate access to advanced energy and meet the needs of large energy users that are, to state governments, such important corporate citizens.

## Using this Guide

AEE's guide to policies for expanding corporate access to advanced energy is organized in three parts:

1. an overview of corporate advanced energy procurement, outlining the primary purchasing pathways in use today and identifying key policy opportunities;
2. a deep dive on five policy solutions, explaining how they work and providing case studies of each; and

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<sup>1</sup> Business Renewables Center, *BRC Deal Tracker* (Updated May 2017), available at <http://businessrenewables.org/corporate-transactions/>; Solar Energy Industries Association, *Solar Means Business 2016*, <http://www.seia.org/campaign/solar-means-business-2016>;

<sup>2</sup> Johnson Controls, *Energy Efficiency Indicator Survey* (2016), <http://www.johnsoncontrols.com/insights/2016/buildings/features/2016-eei-global-summary>.



3. in the Appendix, sample legislative language for enacting four of the five policy solutions discussed in the report.

This guide is intended to serve as a starting point for policymakers to identify steps to meet the shifting energy needs of corporate America.

## Policies in the Report

This report includes six sample policies, divided into five categories:

- ◉ **Renewable Energy Tariffs:** Three different policy solutions to enable large end users in traditionally regulated markets to procure energy from large offsite projects at competitive prices, without leaving their incumbent utility ([explanation](#) on p. 10, [sample policies](#) starting on p. 28);
- ◉ **Direct Advanced Energy Procurement:** A policy allowing companies to procure advanced energy directly by leaving the generation service of their incumbent utility, provided that they follow provisions to avoid impacts for other ratepayers ([explanation](#) on p. 16, [sample policy](#) on p. 35);
- ◉ **Onsite Power Purchase Agreements:** Legislation enabling third parties to provide power on a customer's property ([explanation](#) on p. 18, [sample policy](#) on p. 38);
- ◉ **Shared Renewable Energy:** A policy to establish shared energy programs for residential and non-residential electricity customers ([explanation](#) on p. 21, sample policy forthcoming); and
- ◉ **Utility Planning Coordination:** A sample bill directing the state utility commissions to consider corporate renewable energy, energy efficiency, energy storage, and other energy-related targets when reviewing utility integrated resource plans and other relevant utility filings ([explanation](#) on p. 22, [sample policy](#) on p. 42).



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# CORPORATE ACCESS TO ADVANCED ENERGY: AN OVERVIEW

For many companies, the ability to control energy costs and choose energy sources has become a key factor when deciding where to locate or expand operations. Increasingly, companies are specifically seeking opportunities to purchase advanced energy—a choice often backed by an internal sustainability or renewable energy target. In many states, however, companies face regulatory hurdles that make fulfilling these commitments difficult or impossible. Many of these same barriers keep utilities from providing offerings that meet customers' changing needs. Solving this problem is as simple as enabling access.

In addition to serving as good partners to their corporate citizens, states that unlock corporate investment in advanced energy also stand to unlock benefits for other utility customers, and for the state as a whole. By providing greater opportunities to access advanced energy, states can:

- Remove regulatory barriers to allow greater customer choice and competition;
- Meet changing customer needs to attract or retain a strong corporate presence;
- Promote economic growth through jobs and taxes;
- Add new clean power sources to the grid, including many not subject to fluctuating fuel costs;

- Improve the resource diversity of the local grid; and,
- In markets where new generation assets are needed, offset the need for new capital investments that would otherwise be paid for by all customers.

Nationally, if half of commercial and industrial electricity demand were met by renewable energy, this would drive development of nearly 450 gigawatts (GW) of renewable energy—more than double current capacity, and equivalent to the electricity required to power over 100 million homes.<sup>3</sup> The states that choose to enact policies allowing corporate purchases of advanced energy will benefit most from the investment, tax revenue, jobs, and infrastructure upgrades that come with the resulting advanced energy growth.

## How Corporations Access Advanced Energy

Companies are turning to a wide range of advanced energy options to meet their energy needs, including large, offsite zero-carbon or renewable energy resources like wind, solar, and hydropower; distributed energy resources like onsite solar, energy storage, fuel cells,

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<sup>3</sup> Meister Consultants Group for Advanced Energy Economy Institute, Opportunities to Increase Corporate Access to Advanced Energy: A National Brief (August 2016), <http://info.aee.net/opportunities-to-increase-corporate-access-to-advanced-energy-report>.



combined heat and power, and microturbines; and demand-side management technologies and services, like demand response, building energy management, and energy efficiency. With multiple technology and purchasing choices, the right approach will vary by company, meaning there is no one-size-fits-all transaction or contract structure to meet the varying needs of corporate purchasers—in fact, most companies make use of more than one pathway. Furthermore, trends and preferences shift over time; for example, while some companies still rely in part or in full on renewable energy certificate (REC) purchases to offset their electricity use, there has been an

increasing trend toward direct energy purchases, including bundled contracts for RECs plus renewable energy.<sup>4</sup>

A summary of options for onsite purchases is provided in Table 1 (and in more detail on p. 20), and the primary large-scale offsite purchasing pathways are described in Table 2.

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<sup>4</sup> For more discussion of the shift toward direct procurement from REC-only purchases, see Calvert Investments, Ceres, David Gardiner & Associates, and World Wildlife Fund, *PowerForward 2.0.: How American Companies are Setting Clean Energy Targets and Capturing Greater Business Value* (2016) at 12, available at [https://c402277.ssl.cf1.rackcdn.com/publications/685/files/original/Power\\_forward\\_portfolio.pdf?1403189801](https://c402277.ssl.cf1.rackcdn.com/publications/685/files/original/Power_forward_portfolio.pdf?1403189801).

**Table 1. Onsite distributed energy purchasing options for corporate customers.**

Purchasing Option	Description
<b>Direct Ownership</b>	Direct ownership is when the customer purchases the renewable energy equipment outright, consuming the electricity generated and gaining other benefits, such as tax incentives and net metering credits, as available.
<b>Onsite PPAs</b>	Onsite PPAs let customers purchase electricity from an onsite project through a long-term, fixed (or escalating) contract with the installation company (and owner), avoiding the upfront capital cost of direct ownership.
<b>Onsite Leases</b>	Onsite leases allow customers to lease distributed energy resource equipment and consume its output. This model also avoids the upfront cost of direct ownership but differs from onsite PPAs because it involves a fixed monthly payment, regardless of system output.



**Table 2. Offsite renewable energy purchasing options for corporate customers**

Purchasing Option	Description
<b>Renewable Energy Certificate (REC) Purchase</b>	<p>A REC is a non-tangible certificate that represents the environmental attributes—not the actual output—of producing 1 megawatt hour (MWh) of electricity from a renewable energy facility. Customers can purchase RECs from REC suppliers, through a utility REC purchasing program, or via a long-term contract with a specific facility.</p>
<b>Power Purchase Agreement (PPA)</b>	<p>A PPA is a contract for the delivery of renewable energy, typically with a fixed or escalating price over 15 to 25 years.</p>
<b>Virtual (“Financial”) PPA</b>	<p>Under a virtual PPA, a customer signs a long-term fixed or escalating price contract (as under a physical PPA), but the electricity is sold on the wholesale market rather than being consumed directly by the customer. If the selling price in the wholesale market is higher than the per-kWh rate of the virtual PPA, the customer receives the difference in credit; if the price that the renewable energy sells for is lower, the customer pays the difference.</p>
<b>Competitive Service Provider (CSP)</b>	<p>Some service providers in competitive, or restructured, electricity markets offer products consisting of bundled RECs plus renewable energy. Depending on the offering, this may come from a mix of different renewable energy resources.</p>
<b>Renewable Energy Tariff (“Green Tariff”)</b>	<p>Some utilities in vertically integrated markets have introduced renewable energy tariffs, sometimes called “green tariffs,” which allow customers to purchase bundled renewable energy and RECs through their utility at long-term, competitive prices. Current offerings can be divided into three main categories (see p. 10 for more detail).</p>
<b>Shared (“Community”) Renewable Energy</b>	<p>Shared renewable energy, commonly called “community solar,” is an arrangement that allows multiple customers to share the output of a single offsite project. Subscribers maintain their regular utility service, and the community renewable energy project feeds into the utility network. Depending on program design, residential, small business, and commercial energy users can all participate in a project, allowing the credits from the shared facility to offset their energy bills.</p>





## Why Policy Matters

A company's decision about a renewable energy purchase rests on many factors, including cost, risk, availability, location, and how the transaction fits into the company's existing energy portfolio and future goals or commitments. Before even considering these factors, the company must first know which purchasing pathways are available in a given jurisdiction. While a few of the options above are available throughout the country, many are not—some are only available when a certain policy or utility offering has been introduced, and others depend on how a state's retail electricity market is regulated (see Issue Overview 1: Retail Electricity Market Structure, p. 11), or whether a company is able to access competitive wholesale markets (see Issue Overview 2: Wholesale Electricity Market Structure, p. 13).

How effective a policy or program is in practice often matters more than its availability—a policy that fails to meet the needs of a range of customers will sit on the books unused or underused, as has happened with some shared renewable energy offerings and early renewable energy tariffs.

Whether due to a lack of purchasing pathways or a lack of viable purchasing pathways, restrictions around advanced energy procurement matter a great deal for companies. For businesses already established in an area, a lack of viable purchasing options presents a significant barrier; for companies siting new facilities, the availability of preferred purchasing options is often a key factor in deciding between future locations. Table 3 provides a summary of where the different options are available (for a state-by-state breakdown, see [Appendix A](#), p. 25).

By extension, advanced energy purchasing options have important implications for states, too. States with multiple viable options for advanced energy procurement are at an advantage when it comes to attracting and retaining businesses with clean energy targets, and stand to benefit from the impact of corporate advanced energy procurement on the state's energy mix and energy economy.

Restrictions on purchasing options can be amended through the introduction of new policies. The next section outlines six policies that states can enact to expand corporate access to advanced energy—and gain the benefits in growth and investment.



**Table 3. Availability of purchasing options by state.**

Purchasing Option	Availability
<b>REC Purchase</b>	Available in all states; purchaser facility or facilities can be in different state(s).
<b>PPA</b>	Generally available only in states allowing full retail choice or some direct access to retail choice (see p. 11); purchaser facility is generally in the same state as the renewable energy project.
<b>Virtual PPA</b>	Available in all organized wholesale markets (see p. 13 for more on wholesale markets); purchaser facility or facilities can be in different state(s).
<b>Competitive Service Provider</b>	Available only in states allowing full retail choice or some direct access to retail choice (see p. 11).
<b>Renewable Energy Tariff</b>	Available only where a program has been implemented (13 programs in 10 states); generally not applicable in states allowing retail choice where PPA and CSP options are already available.
<b>Shared Renewable Energy</b>	14 states and the District of Columbia have shared renewables policies in place (with varying degrees of implementation and therefore varying availability); in addition, individual utilities have voluntarily introduced programs throughout the country. Programs may or may not be open to corporate customers.
<b>Direct Ownership of Onsite Resources</b>	Available in all states.
<b>Onsite PPA</b>	Allowed (sometimes with restrictions) in at least 26 states.
<b>Onsite Leases</b>	Allowed (sometimes with restrictions) in 41 states.



## Policies to Expand Corporate Access to Advanced Energy

AEE has developed four sample resolutions and six sample bills that would increase corporate access to advanced energy. The next section provides an explanation of these policies with a case study for each, and sample language is provided in [Appendix B](#) (starting on p. 28). The policies covered are as follows:

- ⦿ **Renewable Energy Tariffs:** A sample resolution and sample bill language to enable large end users in traditionally regulated markets to procure energy from large offsite projects at competitive prices, without leaving their incumbent utility, including three different program types (sleeved PPAs, subscription-based tariffs, and market-based rates);
- ⦿ **Direct Advanced Energy Procurement:** A sample resolution and sample bill allowing companies to leave their incumbent utility to pursue direct clean energy purchases, provided that they follow provisions to avoid impacts for other ratepayers;
- ⦿ **Onsite Power Purchase Agreements:** A sample resolution and sample bill that would enable third parties to provide power on a customer's property;

- ⦿ **Shared Renewable Energy:** A sample resolution and sample bill<sup>5</sup> to establish shared energy programs for residential and non-residential electricity customers; and
- ⦿ **Utility Planning Coordination:** A sample resolution and sample bill directing a state utility commission to consider corporate renewable energy, energy efficiency, energy storage, and other energy-related targets when reviewing utility integrated resource plans and other relevant utility filings.

Well-crafted legislation marks the difference between a policy that has little practical effect and one that drives significant market activity, and these sample resolutions and bills are intended only as a starting point. Each state will need to consider its unique circumstances when determining which policy or policies to pursue and what elements to include in legislation that is introduced. These sample bills can also be adapted for use by local or municipal governments, public utility commissions, or other regulatory bodies as needed, such as to direct municipal and cooperative utilities to adopt these policies.

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<sup>5</sup> AEE is collaborating with the Coalition for Community Solar Access (CCSA) to develop shared renewable energy program legislation, forthcoming.



# POLICIES TO EXPAND CORPORATE ACCESS TO ADVANCED ENERGY

This section outlines five policy options for states interested in expanding corporate access to advanced energy: renewable energy tariffs, direct advanced energy procurement, onsite PPAs, shared renewable energy, and utility resource planning coordination.

## Renewable Energy Tariffs

### WHAT ARE RENEWABLE ENERGY TARIFFS

In states with vertically integrated utilities, customers do not have the option to “shop” for energy sources that meet their specific needs (see Issue Overview 1: Retail Electricity Market Structure, p. 11). Utility renewable energy tariffs, often called “green tariffs,” are voluntary programs allowing customers of vertically integrated utilities to purchase renewable energy without leaving the service of their incumbent utility. There are many variations, which can be roughly divided into three primary categories.<sup>6</sup>

**Sleeved PPA tariffs** allow large customers in traditionally regulated markets to purchase energy from an offsite renewable project, with the utility agreeing to act as an intermediary to contract for power from the project on behalf of the customer. The utility develops, buys, or purchases power from a project, and the terms

of the PPA contract are “sleeved” through to the customer. Customers and renewable energy developers or producers can sometimes negotiate directly to set the terms of such a contract, subject to utility approval. While there are many variants, the general idea is that participating customers pay a utility bill that includes the cost of the PPA plus the cost of other services delivered by the utility, including transmission, distribution, and administrative fees.

Examples of sleeved PPA tariffs include Rocky Mountain Power’s Schedule 34 in Utah, Duke Energy’s recently expired Green Source Rider in North Carolina, and NV Energy’s Green Energy Rider in Nevada.

**Subscription-based programs** are generally better suited to meet the needs of smaller customers that do not have the internal expertise, electricity demand, and/or balance sheet required to sign onto a long-term, large-scale PPA. Instead, subscription-based programs serve multiple customers from the output of one or more renewable energy facilities owned or contracted by the utility, and generally provide customers with flexibility in terms of subscription amount and length. To meet corporate needs, subscription-based programs should avoid the locked-in price premiums that have made utility “green power” programs and even many existing renewable energy tariff programs unpopular among corporate purchasers. Instead, utility renewable energy tariff programs can require that utilities build, purchase, or contract for a

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<sup>6</sup> For more discussion of renewable energy tariffs, see Priya Barua, World Resources Institute, *Implementation Guide for Utilities: Designing Renewable Energy Products to Meet Large Energy Customer Needs*, Working Paper (June 2017), available at <http://www.wri.org/publication/implementation-guide-green-tariffs>.



portfolio of renewable energy through a competitive process, and charge customers according to the actual cost of the portfolio,

whether that be a net premium or net savings for customers.

## Issue Overview 1. Retail electricity market structure.

Many aspects of electricity regulation are determined at the state level, and states follow a spectrum of different regulatory approaches that can be broadly categorized into vertically integrated markets or competitive (restructured) markets.

Historically, all utilities were vertically integrated, which typically means that utilities own all levels of the supply chain: generation, transmission, distribution, and retail sales. Starting in the 1990s, restructuring changed this traditional model in some states by introducing market competition and directing utilities to unbundle generation, transmission, and distribution services. In restructured states, power providers compete to supply customers with electricity. In these states, most utilities were also required to divest their generation assets, and competitive wholesale markets were established (for more on competitive wholesale markets, see p. 13). The transmission and distribution of electricity, which are natural monopolies, remain regulated to some extent. Some vertically integrated utilities, like the big three in California, own only a minority of the generation that serves their customers, and instead procure the rest from independent power producers.

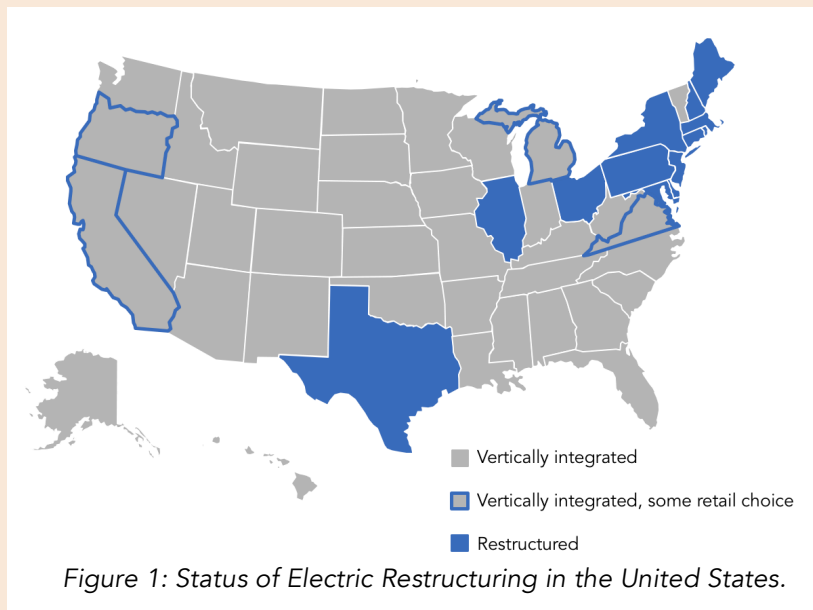


Figure 1: Status of Electric Restructuring in the United States.

One key difference between vertically integrated and restructured markets for the purpose of corporate renewable energy procurement is the availability of retail choice. While vertically integrated utilities generally retain a monopoly over electricity sales to their customers, restructured utilities generally only sell retail electricity as a default service to customers who opt not to select a competitive supplier. In other words, with a few exceptions, the customers of vertically integrated utilities cannot choose their electricity supplier whereas customers in restructured markets can.

One exception is where states have enacted limited retail choice for certain customer classes, often termed direct access (see p. 16 for more discussion of direct access). Figure 1 provides a summary of the status of electric restructuring in all 50 states.<sup>7</sup>

Another important factor for corporate customers when it comes to offsite purchasing options is access to organized wholesale markets (see Issue Overview 2: Wholesale Electricity Market Structure, p. 13).

<sup>7</sup> Note that there are some states not listed as allowing retail choice that currently or recently offered some limited form of retail choice for customers, including Arizona Public Service in Arizona through a recently expired pilot program (AG-1), and Georgia, which allows electricity supplier choice for customers over 900 kW. See Mathew J. Morey, Lauren D. Kirsch, and Christensen Associates Energy Consulting, *Retail Choice in Electricity: What Have We Learned in 20 Years?* (Feb. 2016), available at <https://sites.hks.harvard.edu/hepg/Papers/2016/Retail%20Choice%20in%20Electricity%20for%20EMRF%20Final.pdf>.



**Market-based rates** replace the energy portion of a customer's bill with a dynamic variable rate that moves up and down with wholesale market prices. The market-based rate works in parallel with a virtual PPA. In the virtual PPA model, a customer signs a PPA with a developer or producer in which the customer agrees to pay a fixed per-kWh price for the renewable energy generated; rather than directly consuming the electricity (as would happen under a physical PPA), the electricity is sold onto the wholesale market. If the selling price in the wholesale market is higher than the fixed per-kWh rate, the customer receives the difference in credit, and if the price that the renewable energy sells for is lower, the customer pays the difference. This virtual PPA arrangement enables the developer or producer to secure financing and provides the customer with a long-term hedge against rising wholesale market prices. Specifically, it gives the customer an opportunity to earn money if wholesale electricity prices rise with limited downside risk, as the customer's worst case scenario is paying the fixed per-kWh price agreed to in the contract. Virtual PPAs are generally available in any state participating in an organized wholesale market, which gives project providers access to a liquid market with uniform, transparent pricing (see Issue Overview 2: Wholesale Electricity Market Structure, p. 13).

However, the virtual PPA is not directly connected to a customer's retail bill, which for many customers is problematic because this can introduce price risk. A market-based rate enables the financial integration of the customer's virtual PPA with a customer's energy usage by providing a more direct correlation between the customer's electricity rates (per-kWh usage) and the variable market

prices from the sale of the renewable energy into the wholesale market.<sup>8</sup>

The only current examples are Dominion Energy's "Schedule Market Based Rate," approved in 2016 following the development of a Special Contract Rate negotiated with Amazon Web Services, and Omaha Public Power District's Schedule 261M, available in conjunction with the utility's Green Sponsorship Rate Rider.

## SAMPLE POLICIES

AEE has developed a sample [resolution](#) (p. 28) and three sample bills as a starting point for establishing renewable energy tariff options that customers can make use of to pursue long-term contracts. The three bills correspond to the three types of renewable energy tariffs, as described above:

1. The "[Voluntary Clean Energy Choice Act](#)" directs utilities to develop a sleeved PPA offering (p. 29);
2. The "[Voluntary Clean Energy Subscription Act](#)" directs utilities to develop a subscription-based renewable energy program (p. 31); and
3. The "[Renewable Energy Market Integration Act](#)" directs utilities to offer a market-based rate (p. 33).

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<sup>8</sup> It is important to note that these prices are correlated only if the settlement node for the virtual PPA is the same as the node that provides the basis for calculating the market-based rate.



## Issue Overview 2. Wholesale electricity market structure.

Just as states have taken different approaches to regulating retail electricity markets (see Issue Overview 1: Retail electricity market structure, p. 11), there are also key differences in the underlying wholesale market structure that impact the purchasing choices available to companies. There are three primary approaches to wholesale and retail market structures:

### **Traditional wholesale and retail regulatory structure.**

In states with a traditional retail and wholesale electricity market structure, utilities are vertically integrated with a utility-operated grid and utility-owned generation assets. Utilities in these states may also make wholesale electricity purchases through bilateral contracts or exchanges. New infrastructure investment is determined through a state regulatory process, with all investments approved by the state utility commission. This approach is typical of the Western states (except California) and many of the Southeastern states.

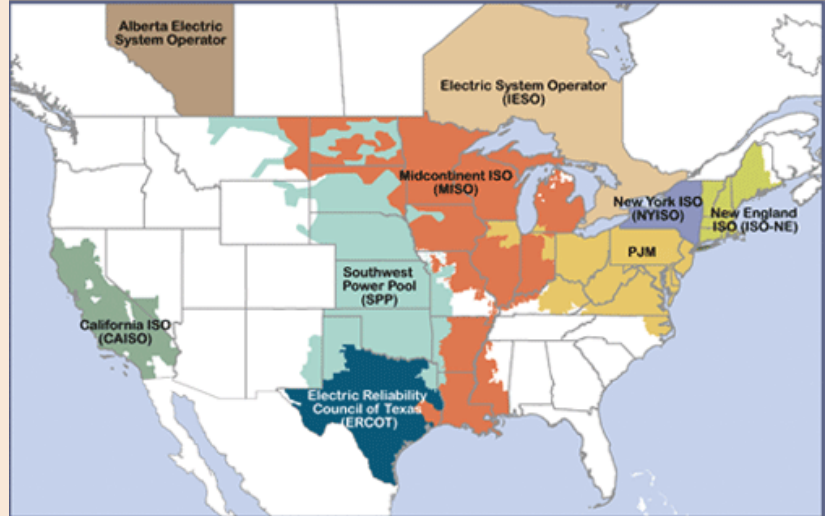


Figure 2: RTOs and ISOs in North America (Source: FERC).

**Competitive wholesale and retail markets.** Every state that switched to a competitive retail market structure during the 1990s and 2000s also joined a regional transmission organization (RTO) or an Independent System Operator (ISO). RTOs and ISOs emerged out of the power pools that developed in the 1970s and 1980s as a way to realize greater economies of scale. By making use of a centralized dispatcher across a larger pool of resources (rather than just across the territory of a single utility), power pools facilitated a streamlined exchange of resources between utilities. Today's RTOs and ISOs use a similar approach to manage the movement of power across the transmission network, but also operate wholesale power markets for clearing transactions (Figure 2 shows the current RTOs and ISOs in the United States).<sup>9</sup> New infrastructure investment is driven by market price signals rather than being determined through a regulatory process. This is the approach used by Texas, Illinois, Ohio, as well as many of the mid-Atlantic states (PJM) and Northeastern states (New York ISO and ISO-New England).

**Competitive wholesale market and traditionally regulated retail market.** Some states have opted to maintain a vertically integrated monopoly utility structure for retail electricity markets while also participating in an ISO or RTO. In these states, generation dispatch and transmission operations are controlled by the RTO/ISO, but the state utility commission still approves infrastructure investment by the utility, which may also receive cost recovery for its investments. This is the approach taken by California, and by many states in the Midcontinent ISO and the Southwest Power Pool regions.<sup>10</sup>

<sup>9</sup> Federal Energy Regulatory Commission, "Regional Transmission Organizations / Independent System Operators," <https://www.ferc.gov/industries/electric/indus-act/rto.asp>.

<sup>10</sup> For more discussion of these regulatory models, see Tony Clark, *Regulation and Markets: Ideas for Solving the Identity Crisis* (July 2017), [http://www.wbklaw.com/uploads/file/Articles-%20News/2017%20articles%20publications/Market%20Identity%20Crisis%20Final%20\(7-14-17\).pdf](http://www.wbklaw.com/uploads/file/Articles-%20News/2017%20articles%20publications/Market%20Identity%20Crisis%20Final%20(7-14-17).pdf).





## KEY CONSIDERATIONS FOR CORPORATE PURCHASERS

There are several overarching design elements that customers look for when evaluating whether a particular renewable energy tariff will meet their needs:

1. Avoiding impact on nonparticipating customers;<sup>11</sup>
2. Pricing that reflects actual market pricing and program costs;
3. Competitive project selection;
4. Development of new renewable energy, beyond business-as-usual;
5. Allowing a range of customers to participate;<sup>12</sup> and
6. Varied or flexible offerings to meet the needs of different customers.

These six elements should be considered as part of an inclusive program design process including input from a broad range of stakeholders, from utilities and corporate purchasers to residential consumer advocates and state economic development offices.<sup>13</sup> AEE's sample policies seek to balance these

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<sup>11</sup> A paper by AEE Institute considered this item in detail. See AEE Institute, *Making Corporate Renewable Energy Purchasing Work for All Utility Customers* (July 2017), <http://info.aee.net/making-corporate-renewable-energy-purchasing-work-for-all-utility-customers>.

<sup>12</sup> This includes, for example, setting individual and aggregate program caps high enough to meet corporate demand; allowing participation by both new and existing customers; allowing meter aggregation for customers with multiple small-load sites, such as retailers; and more.

<sup>13</sup> See Advanced Energy Economy, *Essential Elements of Next-Generation Renewable Energy Tariffs* (Aug. 2017), <http://info.aee.net/making-corporate-renewable-energy-purchasing-work-for-all-utility-customers>.

key elements, but the right approach will vary by state.

## EXAMPLE: SLEEVED PPA IN NEVADA

In Nevada, NV Energy was one of the first utilities across the country to offer a renewable energy tariff, with its GreenEnergy Rider program (Rider NGR) approved November 7, 2014.<sup>14</sup> The program enables customers to enter into a PPA with NV Energy for renewable energy to be purchased on their behalf, and allows eligible customers to identify a specific renewable energy facility. Customers are charged their normal rates plus an additional per-kWh renewable resource rate that equals the difference between the utility's avoided cost and all the costs associated with the renewable energy resource. There is also an option for customers to enter into special contracts where appropriate.

To date, there have been six contracts facilitated through the program for Apple, Switch, and the City of Las Vegas. Two of these contracts, approved in February 2016, will help both Switch and Apple achieve their 100% annual renewable energy goals through 20-year agreements with new solar facilities. Switch entered into an agreement for the output of First Solar's new 79 MW Playa Solar 1 Project and Apple entered into an agreement for the output of SunPower's new 50 MW Boulder Solar II Project. Both companies will also receive the associated RECs from the projects.

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<sup>14</sup> Public Utility Commission of Nevada Docket 14-06031, available at <http://pucweb1.state.nv.us/puc2/Dktinfo.aspx?Util=ElectricClose&AspxAutoDetectCookieSupport=1>.





The transaction provides the companies with renewable energy at a modest premium,<sup>15</sup> while also delivering a long-term supply of energy and capacity at a predictable price that will diversify NV Energy's energy mix.

## EXAMPLE: SUBSCRIPTION TARIFF IN WASHINGTON

Puget Sound Energy (PSE) in Washington recently introduced a subscription-based renewable energy program, "Green Direct" (Schedule 139), which was approved August 1, 2016.<sup>16</sup> The program allows customers that enroll to receive electricity from solar or wind facilities, which will be owned or contracted by PSE. Soon after being approved by the Washington Utilities and Transportation Commission, it already had several subscribers, including REI, Starbucks, Target, Western Washington University, Sound Transit, King County, and several cities (Anacortes, Bellevue, Snoqualmie, and Mercer Island).<sup>17</sup>

Participating customers have cited the new program as a key tool in meeting their renewable energy goals. Target's vice president of property management, John Leisen, explained, "By partnering with Puget

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<sup>15</sup> Apple and Switch will receive a monthly invoice with the kWh generated by the solar array they have contracted with, the renewable resource rate (\$0.00271 for Switch and \$0.00412 per kWh for Apple), and any other administrative fees and/or fees dealing the renewable energy credits. See Nevada Public Utilities Commission Docket No. 15-11028, available at <http://pucweb1.state.nv.us/puc2/Dktinfo.aspx?Util=RenewableClosed>.

<sup>16</sup> Washington Utilities and Transportation Commission, Docket UE-160977, available at <https://www.utc.wa.gov/layouts/15/CasesPublicWebsite/Case.aspx?year=2016&docketNumber=160977>.

<sup>17</sup> Letha Tawney, Priya Barua, Celina Bonugli, Bryn Baker, "Emerging Green Tariffs in U.S. Regulated Electricity Markets," World Resources Institute, May 2017, available at <http://www.wri.org/publication/emerging-green-tariffs-us-regulated-electricity-markets>.

Sound Energy on their innovative Green Direct program, we're able to power seven of our local Target stores with 100 percent clean energy."<sup>18</sup> Similarly, Patrick Leonard, Manager of Energy and Resource Management for Starbucks, said of the program, "Green Direct is a way Starbucks can select what type of energy we buy, rather than that being predetermined by the utility."<sup>19</sup>

## EXAMPLE: MARKET-BASED RATE IN NEBRASKA

Omaha Public Power District (OPPD) in Nebraska approved two new tariffs in January 2017 to facilitate voluntary renewable energy purchases, aimed at meeting the needs of very large customers, such as data centers.<sup>20</sup> The first, Schedule No. 261M, is a market-based rate schedule available to large customers. Eligible customers sign up for a variable rate that tracks wholesale market prices in Southwest Power Pool (SPP) in place of the energy portion of the customer's fixed-rate, cost-of-service bill. Schedule No. 261M does not include delivery of renewable energy, but allows customers to achieve a more direct financial correlation between their electricity bills and the variable market prices from the sale of renewable energy into the SPP market (purchased by a virtual PPA).

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<sup>18</sup> Joshua S. Hill, "Starbucks Commits to 'Green Direct' Tariff in Home State of Washington," CleanTechnica, April 24, 2017, <https://cleantechnica.com/2017/04/24/starbucks-commits-green-direct-tariff-home-state-washington/>.

<sup>19</sup> Coral Garnick, "Starbucks, REI, and Sound Transit partner with PSE on renewable energy project," Puget Sound Business Journal, Apr. 20, 2017, <https://www.bizjournals.com/seattle/news/2017/04/20/starbucks-rei-and-sound-transit-partner-with-pse.html>.

<sup>20</sup> See Omaha Public Power District Electric Rate Schedules and Service Regulations, January 1, 2017, available at <http://www.oppd.com/media/207840/oppd-rate-manual.pdf>.



The second new tariff, Schedule 499, offers customers an option to purchase renewable energy from the utility rather than through a virtual PPA. Schedule 499 delivers “Environmental Attributes” from renewable energy projects in the SPP market, with the pricing structured such that customers achieve a price hedge as they would through a virtual PPA.

While no deals have been executed to date, Facebook has announced that it plans to make use of OPPD’s new rate structures. The technology firm worked closely with OPPD to design the new rates as part of its process of determining whether it would establish operations in Nebraska. The company explained: “Over the course of several months, we collaborated with OPPD on the details of the rate design to ensure it enables corporations to cover 100 percent of their usage with renewable energy, while bringing broader economic benefits to OPPD. In fact, this new rate is already meeting the needs of other large power customers, like Yahoo. They are looking forward to adopting this rate to help bring their growing Nebraska facilities to complete sustainable energy consumption.”<sup>21</sup>

## Direct Advanced Energy Procurement

### WHAT IS DIRECT ACCESS?

Direct access tariffs allow certain customers in traditionally regulated states, most frequently large energy users, to choose to purchase power from an energy supplier other than the

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<sup>21</sup> Facebook, “Designing and implementing renewable energy tariffs,” (April 4, 2017), <https://www.facebook.com/notes/green-on-facebook/designing-and-implementing-renewable-energy-tariffs/1645979022084014/>.



local distribution utility. Direct access tariffs do not necessarily have a renewable energy requirement, but this pathway does create the opportunity for renewable energy purchases. Simply put, direct access tariffs give customers the same electricity choice in traditionally regulated states that they already have in states with competitive electricity markets (for more on regulation of retail electricity markets, see Issue Overview 1: Retail Electricity Market Structure, p.10).

Several states across the country offer some form of direct access, including California, Michigan, Oregon, and Virginia. All of these states place certain restrictions on direct access, and in some states direct access programs are no longer accepting new participants.

### SAMPLE POLICY: DIRECT RENEWABLE ENERGY CHOICE ACT

AEE has developed a sample resolution and sample bill that would allow direct access for nonresidential customers. In keeping with the goal of expanding corporate access to advanced energy, this sample resolution and bill would apply only to those customers pursuing renewable or clean energy purchases, although states could expand the scope of direct access to meet other goals. (See [Direct Access to Clean Energy](#), p. 35).

### KEY CONSIDERATIONS FOR CORPORATE PURCHASERS

Two key considerations for any direct access policy are transparency and fairness. Depending on state-specific circumstances and without corrective measures, direct energy purchasing by large customers could result in increased costs for other ratepayers, as these

large customers defect from existing utility-procured resources, leaving a smaller pool of ratepayers to cover certain system costs. This is not an outcome that corporate purchasers want. The 65 signatories to the Renewable Energy Buyers' Principles—representing an estimated annual aggregate demand of 48 million MWh by 2020, equivalent to the energy use of about 4.5 million households—specify that they want to “fairly share the costs and benefits of renewable energy procurement,” and stipulate that they wish to do so “without impacting other rate payers.”<sup>22</sup> Accordingly, any potential impacts on other customers should be studied and accounted for.

At the same time, there is a risk that steps taken to avoid departing load impacts on other customers will overcharge departing customers. It is therefore vital that lawmakers set clear parameters for measuring both the costs and benefits of a direct procurement arrangement to ensure that corporate customers are not overcharged for the impact of their departing load. States can meet the needs of all customers by implementing a transparent, straightforward, comprehensive, and fair process to assess the potential impacts of any direct access policy.

## EXAMPLE: MICROSOFT IN WASHINGTON

In Washington, Microsoft worked closely with Puget Sound Energy to negotiate an agreement allowing the company to directly purchase electricity to meet the needs of its main campus, which accounts for about 80% of Microsoft's total electricity use in the state.

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<sup>22</sup> Corporate Renewable Energy Buyers' Principles (Updated Jan. 2017), available at [http://buyersprinciples.org/wp-content/uploads/Corporate\\_RE\\_buyers\\_guide-Jan242017.pdf](http://buyersprinciples.org/wp-content/uploads/Corporate_RE_buyers_guide-Jan242017.pdf).



In keeping with the energy and carbon goals that prompted Microsoft to seek direct access, the settlement requires that Microsoft's direct purchases come only from carbon-free sources. The company must also comply with the state's renewable portfolio standard.<sup>23</sup>

Importantly, the agreement also includes a requirement that Microsoft pay a one-time \$23.7 million “Transition Fee” to “protect PSE's remaining customers from the resulting cost shifts” due to Microsoft's transition to direct purchases from other suppliers. Microsoft will also continue to fund energy conservation and low-income programs, and will remain a distribution customer of PSE.

Both Microsoft and PSE have emphasized the benefits of the agreement. Brad Smith, president and chief legal officer of Microsoft, said, “This agreement is good for our business, but more important it's good for residents, the environment and the state of Washington.” Smith emphasized the importance of avoiding impacts on other customers, saying, “This contract is a helpful innovation in meeting the demand for renewable energy in a way that protects other energy consumers.” Kimberly Harris, president and CEO of PSE, echoed the same sentiment, stating, “We're proud to be a part of Microsoft's response to renewable energy demands, and we're proud to be part of the lives of our million-plus customers across Western Washington.”<sup>24</sup>

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<sup>23</sup> Washington Utilities and Transportation Commission Docket UE-161123, Order Approving Settlement Agreement, available at <http://www.documentcloud.org/documents/3894466-Order-Approving-Settlement.html>.

<sup>24</sup> Microsoft, “Microsoft and Puget Sound Energy receive approval for energy purchasing agreement,” July 13, 2017, <https://news.microsoft.com/2017/07/13/microsoft-puget-sound-energy-receive-approval-energy-purchasing-agreement/>.

While this deal was negotiated entirely through the regulatory process, other states have initiated direct access policies through legislation, including California, Michigan, and Virginia. Many details of these programs, including appropriate transition fees, will likely be determined by the state utility commission.

The arrangement between PSE and Microsoft also demonstrates that there is no one-size-fits-all solution to meet shifting corporate energy needs. In addition to the Microsoft agreement, PSE also recently introduced a subscription-based renewable energy tariff, which already has its first customers (see Example: Subscription Tariff in Washington, p. 15). Harris explained, “The energy needs of our customers are unique.”

## Onsite Power Purchase Agreements

### WHAT ARE ONSITE POWER PURCHASE AGREEMENTS?

Many companies wish to obtain power from onsite distributed energy resources while still remaining connected to the utility grid. These resources—which include solar photovoltaics, energy storage, fuel cells, combined heat and power, waste heat and power, microturbines, behind-the-meter hydropower, small-scale wind, or even modular nuclear—can deliver cost savings while providing lower-carbon electricity. Onsite resources also allow businesses to directly communicate their clean energy commitment to customers. There are a few different pathways for customers to access onsite distributed energy resources (see Issue Overview 3: Onsite Procurement Options, p. 20). For many customers, directly financing, owning, and operating a distributed energy

facility may not be financially or logistically practical. Purchasing renewable energy from a third party through a PPA removes these concerns for companies, as well as for residential customers.

### SAMPLE POLICY: HOME AND BUSINESS ENERGY FREEDOM ACT

In some states, third-party-owned distributed energy systems are classified as electric utilities or service providers, subject to similar regulations. Such regulations are inappropriate for small, distributed systems, especially when all or most of the generation is used by the customer. In these states, legislation to exempt third-party systems from such classification creates more opportunities for onsite installations. AEE has developed a sample resolution and sample bill for enabling third-party ownership of onsite distributed energy resources. (See [Onsite Power Purchase Agreements](#), p. 38).

### KEY CONSIDERATIONS FOR CORPORATE PURCHASERS

Two key considerations for companies interested in pursuing onsite generation are size and cost. AEE’s sample bill does not address the issue of cost or bill crediting; this can be tackled through separate legislation if needed. Regarding size considerations, many companies have a desire to meet their full electricity needs through onsite projects. As such, AEE’s sample bill recommends restricting facilities’ size to supply no more than 125% of the average annual energy consumption of the customer at that site. The size is intended to match customers’ onsite needs, but is sized slightly higher than 100% to capture variances in consumption.



In addition, customers often want flexibility to pursue a wide range of distributed energy resources, including solar, small-scale wind, other small-scale renewables, energy storage, fuel cells, combined heat and power, waste heat and power, microturbines, small-scale hydropower, and more. By providing flexibility in terms of resource eligibility, states will meet the needs of a greater number of companies while also enabling deployment of new and innovative technologies as they enter the market.

### EXAMPLE: WALMART ACROSS MULTIPLE STATES

With operations in all 50 states, Walmart has pursued both onsite and offsite advanced energy solutions. As of May 2017, the company had installed 364 onsite solar facilities across the United States, with a goal to grow that number to 480 by 2020. Globally, Walmart has 460 onsite installations. Because of the

patchwork of onsite purchasing options across the country, Walmart has pursued these onsite deals through multiple purchasing pathways (see Issue Overview 3: Onsite Procurement Options, p. 20).

However, the PPA is a particularly attractive option for companies like Walmart, because this model avoids the need to invest capital resources that could otherwise be used to grow the company, such as by investing in and building new stores. In its 2017 Global Responsibility Report, Walmart explains, “To date, we have found the Power Purchase Agreement (PPA) to be a highly effective model for Walmart to leverage our scale and buying power to accelerate renewables.”<sup>25</sup>

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<sup>25</sup> Walmart, “Scaling clean, affordable, renewable energy,” 2017 Global Responsibility Report, <http://corporate.walmart.com/2017grr/sustainability/reducing-energy-intensity-and-emissions#grr-h2-class-cms-heading-grr-h2-scaling-clean-affordable-renewable-energy-grr-h2-br>.







## Shared Renewable Energy

### WHAT IS SHARED RENEWABLE ENERGY

Shared renewable energy is an arrangement that allows multiple customers to share in a portion of the output of a single renewable energy project. These renewable energy facilities are most commonly solar farms, and the policy is often referred to as “community solar.” This model could also work for other resource types, and there are efforts currently underway to develop community wind projects.<sup>28</sup>

Shared renewable energy allows customers to benefit from distributed energy resources to offset their energy use even when they are not able to host such resources onsite, and can allow participants to benefit from greater economies of scale relative to onsite installations, particularly when policies enable larger total project sizes. Participants maintain their regular utility service, and the shared renewable energy project feeds into the utility network. Depending on program design, residential, commercial, and industrial energy users can participate in a project, allowing the credits from the shared facility to offset their energy bills. This typically happens through a subscription-based model but some projects allow for the direct purchase or lease of project panels.

With 200 MW deployed in 2016 alone, and another 3,000 MW in development, interest in

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<sup>28</sup> Frank Jossi, “Florida entrepreneur develops community financing option for wind,” Southeast Energy News, May 9, 2017, <http://southeastenergynews.com/2017/05/09/florida-entrepreneur-develops-community-financing-option-for-wind/>.



shared renewable energy offerings has taken off in recent years.<sup>29</sup> Currently, 14 states and the District of Columbia have shared renewable energy policies in place, with varying degrees of implementation and therefore varying availability.<sup>30</sup> In addition, utilities across the country have voluntarily implemented shared renewable energy programs. However, not all programs allow participation by non-residential customers.

### SAMPLE POLICY: SHARED ADVANCED ENERGY ACT

Shared renewable energy programs or offerings can be introduced at the discretion of a utility, in response to an order from the state utilities commission, or through a legislative directive. AEE is collaborating with the Coalition for Community Solar Access (CCSA) to develop sample shared renewable energy program legislation.

### KEY CONSIDERATIONS FOR CORPORATE PURCHASERS

Shared renewable energy offerings are often viewed as an option for residential or small business customers, but they can also work for larger commercial or industrial companies. Enabling participation by these large energy users as “anchor tenants” can bring costs down for all participants. Project size and cost are two key considerations for corporate purchasers.

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<sup>29</sup> Mike Munsel, “America’s Community Solar Market Will Surpass 400MW in 2017,” Greentech Media, Feb. 6, 2017, <https://www.greentechmedia.com/articles/read/us-community-solar-market-to-surpass-400-mw-in-2017>.

<sup>30</sup> Shared Renewables HQ, USA Shared Energy Map, <http://www.sharedrenewables.org/community-energy-projects/>.

To reach sufficient scale to enable corporate participation, shared renewable energy programs would need to allow a single customer to take a significant portion of the total project (e.g., up to 50%), and/or allow customers to participate in multiple projects within a program. Programs would also need to accommodate projects large enough to achieve economies of scale, typically between 5-20 MW. States can further improve project economics and customer options by allowing broad geographic eligibility, ensuring that projects can locate where there are the best resources and that customers will have access to shared renewable energy projects even if there is not an active project in their city or county.

Another cost consideration is the on-bill credit that participants are provided for the output of their portion of the renewable energy; because many states already have rules in place regarding bill crediting for distributed energy resources, AEE has not addressed this issue.

## EXAMPLE: DELAWARE NORTH IN MASSACHUSETTS

In Massachusetts, Delaware North Co.—a global leader in hospitality and food service management—has pursued community solar to reduce energy costs for the TD Garden, the largest sports and entertainment arena in New England and home of the Boston Bruins and the Boston Celtics.

TD Garden will serve as the anchor tenant of a 1.3 MW solar array developed by the Clean Energy Collective. Rooftop solar was not a viable solution for the arena, leading TD Garden to seek alternative options to meet its needs. The project is located 40 miles from Boston, and is interconnected to the same

utility grid that serves TD Garden’s load in Boston. This means the company will receive credits from the project directly on its retail bill. Over 20 years, Delaware North expects to save more than \$6 million.

At the same time, anchor tenants like TD Garden help facilitate the development of shared renewable projects. Tom Sweeny, president of Clean Energy Collective, noted of the TD Garden agreement, “Participation from high-quality companies like Delaware North is contributing to the successful deployment and accelerated growth of community solar.”<sup>31</sup>

For smaller companies and non-corporate purchasers, shared renewable energy also opens new opportunities; for example, Pueblo School District in Colorado will meet 100% of its annual electricity needs by subscribing to 1 MW of solar power from a local shared project that will deliver over \$2 million in savings over the life of the agreement.<sup>32</sup>

## Optimizing Utility Planning

### WHAT IS INTEGRATED RESOURCE PLANNING?

Integrated Resource Planning is a process by which utilities in many states create long-term plans to meet forecasted demand (with some established reserve margin) through a combination of supply- and demand-side resources, minimizing future costs and risks. While integrated resource plan (IRP)

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<sup>31</sup> “TD Garden Taps Community Solar for Clean Energy, Lower Costs,” Feb. 13, 2017, [http://cleanenergyco.com/commercial/case\\_studies/case\\_study\\_t\\_d\\_garden.pdf](http://cleanenergyco.com/commercial/case_studies/case_study_t_d_garden.pdf).

<sup>32</sup> Clean Energy Collective, Pueblo County School District 70, available at [http://cleanenergyco.com/commercial/case\\_studies/case\\_study\\_pueblo\\_county\\_school\\_district\\_70.pdf](http://cleanenergyco.com/commercial/case_studies/case_study_pueblo_county_school_district_70.pdf).





requirements vary by state, they are typically updated every two to four years and apply to a 20-year planning horizon. This planning process enables utilities, regulators, and the public to analyze an increasingly complex future that requires the consideration of short-term costs, long-term regulatory objectives, possible fuel and supply interruptions, and changes in load forecasts and peak load requirements.

As of 2016, 32 states required utilities to submit an IRP, and several others have adopted some alternate form of long-term planning. To date, none of these planning processes include a consideration of corporate renewable energy commitments, despite the significant impact that corporate purchasers are already having on the grid mix. This means that utilities may be procuring new resources to meet existing or new demand at the same time that a growing number of their customers are also pursuing renewable energy to meet their needs, potentially resulting in unnecessary infrastructure buildout and missed opportunities for savings.

## SAMPLE POLICY: ELECTRICITY RESOURCE OPTIMIZATION ACT

Some state IRP requirements were passed in legislation, others codified in state administrative code or rules, and some through a combination. AEE has developed a sample resolution and sample bill directing the state utilities commission to initiate a process for considering corporate advanced energy targets as part of the integrated resource planning

process. (See [Optimizing Utility Planning](#), p. 42.)

## KEY CONSIDERATIONS FOR CORPORATE PURCHASERS

From a customer perspective, confidentiality is likely the most important consideration for a successful process to integrate corporate renewable energy targets into IRP planning. While many companies are very public about their renewable energy targets and their signed purchases, they may not be in a position to publicly disclose information about future plans. This is a challenge that states can address through stakeholder feedback as they design changes to the integrated resource process.

## EXAMPLE: 11 COMPANIES IN VIRGINIA

While no state has formally moved to include a consideration of customer needs and preferences as part of the utility resource planning process, customers have requested such consideration.

In 2015, in response to Dominion Energy's proposed Integrated Resource Plan, a group of 11 companies wrote a letter to the State Corporation Commission in Virginia expressing a desire for "increased and diversified renewable energy supply in Virginia."<sup>33</sup>

The companies conclude by stating, "We invite Dominion and other stakeholders to engage with us on collaborative opportunities to meet mutual objectives to increase the supply of

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<sup>33</sup> See Virginia State Corporation Commission Case No. PUE-2015-00035, Memorandum attaching two customer case comments (at 33), available at <http://www.scc.virginia.gov/docketsearch/DOCS/34yj01!.PDF>.



renewable energy in Virginia.” However, in Virginia and elsewhere, no such collaboration toward mutual objectives has occurred as part of the utility planning process.

A 2016 paper by the Center for New Energy Economy (CNEE), prepared for AEE Institute, explores the potential for such collaboration, charting three pathways (regulatory, legislative, or executive) to better integrate corporate advanced energy goals with utility resource planning. The paper concludes, “By working with companies to consider corporate procurement plans during the resource planning process, utilities and utility commissions can reduce concerns and remove barriers associated with corporate procurement while ensuring that new corporate renewable energy projects complement the needs of the grid overall.”<sup>34</sup>

While introducing a pathway for utilities and corporate entities to work collaboratively through the resource planning process would not directly open new avenues for corporate renewable energy procurement, CNEE explains that doing so would help address some of the challenges that have made corporate procurement challenging in many states, including concerns about departing load and cost impacts for other ratepayers.

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<sup>34</sup> Center for New Energy Economy, *Private Procurement, Public Benefit: Integrating Corporate Renewable Energy Purchases with Utility Resource Planning* (Dec. 2016), <http://info.aee.net/growth-in-corporate-advanced-energy-demand-market-benefits-report>.



# APPENDIX A: CURRENT STATE POLICY LANDSCAPE

In the table below, “Yes” means a policy or regulatory structure is in place, a blank indicates that a policy or regulatory structure is not in place. “Limited” refers to policies with some restrictions (e.g, direct access policies allowing some access to retail choice). “Proposed” or “pending” indicates that a policy has been passed in legislation or proposed through regulation.<sup>35</sup>

State	RECs only	Retail market access	Wholesale market access	RE tariff	Statewide Shared RE Policy	Onsite Ownership	Onsite PPA	Onsite Lease
Alabama	Yes					Yes		
Alaska	Yes					Yes		Yes
Arizona	Yes					Yes	Limited	Yes
Arkansas	Yes		Yes			Yes		
California	Yes	Limited <sup>36</sup>	Yes		Yes <sup>37</sup>	Yes	Yes	Yes
Colorado	Yes			Proposed	Yes	Yes	Limited	Yes
Connecticut	Yes	Yes	Yes		Yes, 6 MW Pilot	Yes	Yes	Yes
Delaware	Yes	Yes	Yes		Virtual Net Metering <sup>38</sup>	Yes	Yes	Yes
Florida	Yes					Yes		
Georgia	Yes	Limited <sup>39</sup>				Yes	Yes	Yes
Hawaii	Yes				Pending	Yes	Yes	Yes
Idaho	Yes					Yes		Yes

<sup>35</sup> Except where otherwise noted, the information in this chart comes from the following sources: American Coalition of Competitive Energy Suppliers, “State-by-State Information,” <http://competitiveenergy.org/consumer-tools/state-by-state-links/>; Federal Energy Regulatory Commission, Regional Transmission Organizations / Independent System Operators, <https://www.ferc.gov/industries/electric/indus-act/rto.asp>; World Resources Institute, *Emerging Green Tariffs in U.S. Regulated Electricity Markets* (May 2017), <http://www.wri.org/publication/emerging-green-tariffs-us-regulated-electricity-markets>; Shared Renewables HQ, USA Shared Energy Map, <http://www.sharedrenewables.org/community-energy-projects/>; DSIRE, 3<sup>rd</sup> Party Solar PV Power Purchase Agreement (Apr. 2017), [http://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2017/04/DSIRE\\_3rd-Party-PPA\\_April\\_2017.pdf](http://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2017/04/DSIRE_3rd-Party-PPA_April_2017.pdf); Center for the New Energy Economy, State Policy Opportunity Tracker, [https://spotforcleanenergy.org/policy/third\\_party-financing/](https://spotforcleanenergy.org/policy/third_party-financing/).

<sup>36</sup> Direct access in California is capped, and currently at capacity with any availability that opens up allocated via lottery. California Public Utilities Commission, California Direct Access Program, <http://www.cpuc.ca.gov/General.aspx?id=7881>.

<sup>37</sup> There are no programs currently available in California.

<sup>38</sup> While virtual net metering exists, the authors are unaware of any shared renewables projects successfully implemented under the policy, despite being enabled in 2010.

<sup>39</sup> Georgia allows commercial and industrial customers over 900 kW a one-time choice in their electricity supplier; eligible customers can also switch suppliers if all parties agree. See Georgia Public Service Commission, Electric, <http://www.psc.state.ga.us/electric/electric.asp>.



State	RECs only	Retail market access	Wholesale market access	RE tariff	Statewide Shared RE Policy	Onsite Ownership	Onsite PPA	Onsite Lease
Illinois	Yes	Yes	Yes		Pending	Yes	Yes	Yes
Indiana	Yes		Yes			Yes		Yes
Iowa	Yes		Yes			Yes	Yes	Yes
Kansas	Yes		Yes			Yes		
Kentucky	Yes		Yes			Yes		
Louisiana	Yes		Yes			Yes		Yes
Maine	Yes	Yes	Yes		Virtual Net Metering <sup>40</sup>	Yes	Yes	Yes
Maryland	Yes	Yes	Yes		Yes, 193 MW Pilot	Yes	Yes	Yes
Massachusetts	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Michigan	Yes	Limited <sup>41</sup>	Yes	Proposed		Yes	Yes	Yes
Minnesota	Yes		Yes	Yes	Yes	Yes		Yes
Mississippi	Yes		Yes			Yes		Yes
Missouri	Yes		Yes			Yes		Yes
Montana	Yes		Yes			Yes		Yes
Nebraska	Yes		Yes	Yes		Yes		Yes
Nevada	Yes	Pending <sup>42</sup>	Pending <sup>43</sup>	Yes		Yes	Limited	Yes
New Hampshire	Yes	Yes	Yes		Group Net Metering <sup>44</sup>	Yes	Yes	Yes
New Jersey	Yes	Yes	Yes			Yes	Yes	Yes
New Mexico	Yes		Yes	Yes		Yes	Yes	Yes
New York	Yes	Yes	Yes		Yes	Yes	Yes	Yes
North Carolina	Yes			Expired,	Partial and	Yes		Pending

<sup>40</sup> Maine's virtual net metering statutes are limited, therefore shared renewables programs are not widely available and there have been legislative campaigns in recent years to improve the policy.

<sup>41</sup> Electric choice is capped at 10% of load in a utility's service territory, and all major utilities in the state are currently at their caps. Michigan Agency for Energy, Electric choice for residential and commercial customers (June 2017), [http://www.michigan.gov/documents/mpsc/electric\\_choice\\_resandcomm\\_379617\\_7.pdf](http://www.michigan.gov/documents/mpsc/electric_choice_resandcomm_379617_7.pdf).

<sup>42</sup> A ballot initiative passed in 2016 would transition Nevada to electric choice if passed again in 2018. See Nevada Governor's Office of Energy, Governor's Committee on Energy Choice, <http://energy.nv.gov/Programs/TaskForces/2017/EnergyChoice/>.

<sup>43</sup> Nevada is exploring options to transition to a competitive wholesale market as part of its potential transition to energy choice. Ibid.

<sup>44</sup> Group net metering in New Hampshire has not resulted in wide-spread shared renewables offerings to date.



State	RECs only	Retail market access	Wholesale market access	RE tariff	Statewide Shared RE Policy	Onsite Ownership	Onsite PPA	Onsite Lease
				pending	pending <sup>45</sup>			
North Dakota	Yes		Yes			Yes		Yes
Ohio	Yes	Yes	Yes			Yes	Yes	Yes
Oklahoma	Yes		Yes			Yes		
Oregon	Yes	Limited <sup>46</sup>	Yes		Pending	Yes	Yes	Yes
Pennsylvania	Yes	Yes	Yes			Yes	Yes	Yes
Rhode Island	Yes	Yes	Yes			Yes	Yes	Yes
South Carolina	Yes				Yes	Yes		Yes
South Dakota	Yes		Yes			Yes		Yes
Tennessee	Yes					Yes		Yes
Texas	Yes	Yes	Yes			Yes	Limited	Yes
Utah	Yes			Yes		Yes	Yes	Yes
Vermont	Yes		Yes		Group Net Metering <sup>47</sup>	Yes	Yes	Yes
Virginia	Yes	Limited <sup>48</sup>	Yes	Yes	Pilot pending <sup>49</sup>	Yes	Limited	Yes
Washington	Yes			Yes	Yes, under revision <sup>50</sup>	Yes		Yes
West Virginia	Yes		Yes			Yes		
Wisconsin	Yes		Yes	Proposed		Yes		Yes
Wyoming	Yes					Yes		Yes

<sup>45</sup> H.B. 589, enacted in July 2017, requires Duke Energy to offer 40 MW of community solar in its service territory to its customers; it is not technically a statewide policy.

<sup>46</sup> Oregon allows direct access for nonresidential customers, but the program has seen little use due to barriers to entry that make it challenging for customers to take advantage of the option.

<sup>47</sup> Providers (i.e. third-party or utilities) do not offer group net metering, rather participants organize themselves and therefore it may not be widely available to corporate buyers.

<sup>48</sup> Virginia allows retail choice for certain large customers, with restrictions, and also allows all customers to purchase 100% renewable energy from a competitive supplier if the incumbent utility does not already offer such a product. See Virginia State Code § 56-577.

<sup>49</sup> S.B. 1393, enacted in March 2017, establishes a 3-year pilot “community solar program” to be offered exclusively by the state’s IOUs (cooperatives may offer it voluntarily). The total capacity of the program is to be at least 10.5 MW-DC and utilities are authorized to phase-in additional capacity as subscriptions of the initial MWs are filled, up to a total cap of 50 MW-DC.

<sup>50</sup> Recent legislation, S.B. 5939, will likely result in additional opportunities in Washington.



# APPENDIX B. SAMPLE POLICIES

Note that all policies are intended to be customized to meet the needs of a given state. Any bracketed items are included to point out particular decisions for lawmakers, including areas where a policy could be expanded or made more flexible, e.g., through the inclusion of municipal utilities and electric cooperatives in addition to public utilities, or by allowing purchases of non-renewable zero-carbon resources in addition to renewable resources.

## Renewable Energy Tariffs

### SAMPLE RESOLUTION: UTILITY RENEWABLE ENERGY OPTIONS RESOLUTION

This resolution expresses the will of the legislature to enable voluntary purchases of renewable [or zero-carbon] energy by directing the [Commission and/or other relevant agency] to order utilities [including municipal utilities and electric cooperative utilities serving more than 100,000 customers] to develop a program or programs facilitating greater access to renewable [or zero-carbon] energy for electricity purchasers located within the utility service territory.

**WHEREAS**, many corporations and other electricity customers seek increased choice and control over their energy costs and energy sources; and

**WHEREAS**, a significant number of major companies and other electricity purchasers have codified their intention to make their operations more sustainable by establishing specific clean energy targets, and have announced their intention to meet these targets through renewable [or zero-carbon] energy purchases; and

**WHEREAS**, enabling such purchases will help develop and support the state's renewable [or zero-carbon] resources, drive private investment, create local jobs, and improve the resource diversity of the electric grid; and

**WHEREAS**, corporations with clean energy or sustainability targets often consider their ability to access renewable [or zero-carbon] energy in their decision about where to locate their operations; and

**WHEREAS**, particularly for industries in which energy is a large operating expense, controlling energy costs confers significant competitive advantage; and

**WHEREAS**, different companies have different energy profiles and purchasing preferences when it comes to renewable [or zero-carbon] energy procurement;

**THEREFORE BE IT RESOLVED** that the [Commission and/or other relevant agency] will direct utilities [including municipal utilities and electric cooperative utilities serving more than 100,000 customers] to develop a program or programs to enable large electricity end users to procure renewable energy from a specific generation source or sources located on the local grid. The program or programs must respond to customers' needs, and may include sleeved power purchase agreements, subscription-based renewable energy offerings, and/or market-based rates.



## SAMPLE SLEEVED PPA BILL: THE VOLUNTARY CLEAN ENERGY CHOICE ACT

This bill is based on legislation passed in Utah during the 2016 legislative session and in North Carolina during the 2017 session.<sup>51</sup>

**Bill Summary:** The legislation requires each public utility [and all municipal utilities and electric cooperative utilities serving more than 100,000 customers] to develop a Voluntary Clean Energy Choice program for approval by the [Commission and/or other relevant agency] to supply some or all of a qualifying customer's electric service from one or more renewable [or zero-carbon] energy facilities selected by the participating customer.

**Be it enacted by [body] in [state]: § [State Code] is amended to read:**

### SECTION A. UTILITY REQUIREMENTS.

No later than 180 days after passage of this Act, each utility subject to regulation by [Commission], as defined by § [State Code], [and all municipal utilities and electric cooperative utilities serving more than 100,000 customers] shall file with the [Commission and/or other relevant agency] an application requesting approval of a tariff to implement a program enabling non-residential customers to procure electricity generated by renewable [or zero-carbon] energy facilities, as defined by § [State Code]. Each utility application must, at a minimum:

1. Allow participation by non-residential customers with a total minimum annual peak demand of no less than one megawatt (1 MW) at a single metered delivery location or across multiple metered delivery locations;
2. Allow qualifying customers the option to directly negotiate with the owner of a renewable [or zero-carbon] energy facility to determine the pricing and duration of a renewable energy contract, and provide an optional standard contract for all other terms and conditions;
3. Provide for electricity generated by the renewable [or zero-carbon] energy facility to be charged to a contract customer's account(s) according to a long-term contracted rate, in accordance with the pricing and duration negotiated according to sub-section (A)(2) of this section;
4. Credit participants for renewable energy purchased according to sub-section (A)(3) of this section with a bill credit that refunds the actual generation costs that would have been incurred by the electric public utility in serving the customer's requirements with its own resources;
5. Include reasonable one-time participation fees and monthly administrative fees commensurate with the actual cost of providing service under this program;

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<sup>51</sup> Utah SB 0115, Sustainable Transportation and Energy Plan Act, Section 6, General Session 2016, available at <http://le.utah.gov/~2016/bills/static/SB0115.html>; North Carolina H 589, Competitive Energy Solutions for NC, General Assembly Session 2017, available at <http://www.ncga.state.nc.us/Sessions/2017/Bills/House/HTML/H589v6.html>.



6. Provide that the right to any environmental attributes associated with a renewable [or zero-carbon] energy facility, including renewable energy certificates, shall be conveyed to the participating customer, except to the extent that the customer specifies otherwise; and
7. Include provisions to ensure that non-participating ratepayers will not be impacted by the program.
  - a. To allow participation by customers entering into a renewable [or zero-carbon] energy contract to meet existing load, the [Commission and/or other relevant agency] shall undergo an equitable and transparent process to be completed within 180 days of passage of this act to consider the full costs and benefits to the system of both the departing load and the additional renewable [or zero-carbon] energy facility, and shall ensure that any net costs imposed on the system are the responsibility of the contract customer and not other ratepayers. The [Commission and/or other relevant agency] shall take into account the positive and negative impacts of the contract customer's departing load and the renewable [or zero-carbon] energy contract on load growth, system reliability, system affordability, capacity needs, and other relevant factors when making this determination.

#### **SECTION B. ADDITIONAL REQUIREMENTS.**

1. Contract customers shall be served under the program(s) established according to this chapter for the duration of the executed renewable [or zero-carbon] energy contract. Repeal or amendment of this chapter shall not abrogate the rights and obligations of the contract customer and qualified utility under an executed renewable [or zero-carbon] energy contract.
2. A public utility serving customers under a program established according to this chapter shall not be held responsible for costs related to customer default.

#### **SECTION C. COMMISSION [AND/OR OTHER AGENCY] REQUIREMENTS.**

The [Commission and/or other relevant agency] shall, within 180 days of the submission of a completed application by a public utility [including municipal utilities and electric cooperative utilities serving more than 100,000 customers], and after notice and opportunity for public comment, issue a decision concerning the utility's application. The [Commission and/or other relevant agency] shall approve the application if the [Commission and/or other relevant agency] determines that:

1. The Voluntary Clean Energy Choice Program is just and reasonable;
2. The Voluntary Clean Energy Choice Program can be reasonably expected to meet the needs of qualifying customers without impacting non-participating customers; and
3. The Voluntary Clean Energy Choice Program is consistent with the requirements of this chapter, and with other applicable state laws and regulations.





# SAMPLE SUBSCRIPTION TARIFF BILL: THE VOLUNTARY CLEAN ENERGY SUBSCRIPTION ACT

**Bill Summary:** Requires the state’s utilities [including municipal utilities and electric cooperative utilities serving more than 100,000 customers] to offer [non-residential] electricity consumers the ability to purchase an amount of electricity equivalent to some or all of their total annual consumption from renewable [or zero-carbon] energy resources.

**Be it enacted by [body] in [state]: § [State Code] is amended to read:**

## **SECTION A. MINIMUM REQUIREMENTS.**

No later than 180 days after passage of this Act, each electric utility operating in the state [including municipal utilities and electric cooperative utilities serving more than 100,000 customers] shall file with the [Commission and/or other relevant agency] an application requesting approval of a program enabling non-residential customers to procure electricity generated by renewable [or zero-carbon] energy facilities, as defined by § [State Code], commissioned on or after the date of enactment of this Act. In establishing this program, each utility shall, at a minimum, meet the following fundamental requirements:

1. Propose a competitive procurement process to ensure lowest cost supply of renewable [or zero-carbon] energy through renewable energy facilities to obtain an additional amount of renewable energy to meet actual or anticipated customer demand under the renewable [or zero-carbon] energy tariff program, taking into account customer preferences;
2. Provide that the price achieved through the competitive procurement process be passed through to participating customers, whether that price results in a cost premium or cost savings.

## **SECTION B. ELIGIBILITY AND PROGRAM PARAMETERS.**

In addition to the requirements in Section A, each electric utility’s application shall:

1. Allow participation by a range of customer classes, including but not limited to small businesses, commercial and industrial customers, municipalities, nonprofit and educational institutions, and local or state government entities;
2. Allow for a range of long- and short-term customer contracts, and identify a process to reconcile the duration of renewable [or zero-carbon] energy procurement contracts and participating customer contracts;
3. Limit participating customers to no more than 100% of the participating customer's average annual electricity use;
4. Include the proposed methodology for calculating the price per kilowatt and any other associated fees;



5. Ensure that renewable [or zero-carbon] energy procured through the renewable [or zero-carbon] energy tariff program is not used toward compliance with any other state or federal requirements; and
6. Specify any other applicable terms and conditions.

**SECTION C. COMMISSION [AND/OR OTHER RELEVANT AGENCY] REQUIREMENTS.**

The Commission [and/other relevant agency] shall, within 180 days of the submission of a completed application by a public utility [or a municipal utility or electric cooperative utility serving more than 100,000 customers], and after notice and opportunity for public comment, issue a decision concerning the utility's application. The Commission [and/or other relevant agency] shall approve the application if the Commission [and/or other relevant agency] determines that:

1. The Voluntary Clean Energy Subscription Program is just and reasonable;
2. The Voluntary Clean Energy Subscription Program can be reasonably expected to meet the needs of qualifying customers without impacting non-participating customers; and
3. The Voluntary Clean Energy Subscription Program is consistent with the requirements of this chapter, and with other applicable state laws and regulations.



## SAMPLE MARKET-BASED RATE BILL: THE CLEAN ENERGY MARKET INTEGRATION ACT

This sample bill is based on the “Schedule Market-Based Rate” or “Schedule MBR” introduced by Dominion Energy in Virginia in 2016.<sup>52</sup>

**Bill Summary:** Requires the state’s utilities [including municipal utilities and electric cooperative utilities serving more than 100,000 customers] to offer non-residential electricity consumers the ability to switch to a market-based electricity rate that tracks local wholesale power prices.

**Be it enacted by [body] in [state]: § [State Code] is amended to read:**

### SECTION A. UTILITY REQUIREMENTS.

No later than 180 days after passage of this Act, each electric utility operating in the state [including municipal utilities and electric cooperative utilities serving more than 100,000 customers] shall file with the [Commission and/or other relevant agency] an application requesting approval of a rate schedule allowing certain large customers to purchase electricity on a market-based rate. Each utility application must, at a minimum:

1. Include a proposed rate structure designed to closely mirror electricity prices in the wholesale market, including a breakdown and explanation of all charges, which may include a generation energy charge, generation capacity charge, ancillary services charge, and any other required per kWh charges;
2. Include reasonable one-time participation fees and monthly administrative fees commensurate with the cost of providing service under this program;
3. Allow participation by non-residential customers with a total minimum annual peak demand of no less than one megawatt (1 MW) at a single metered delivery location or across multiple metered delivery locations;
4. Include provisions to ensure that non-participating ratepayers will not be impacted by the program; and
5. Include a regular reporting requirement (at least every two years) that includes analysis of participation and impacts of the program.

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<sup>52</sup> Virginia State Corporation Commission, Case No. PUE-2015-00108, available at <http://www.scc.virginia.gov/DocketSearch#caseDetails/135117>.



**SECTION B. REQUIREMENTS RELATING TO RENEWABLE [OR ZERO-CARBON] ENERGY TRANSACTIONS.**

Customers may, but are not required to, pursue financial transactions with one or more renewable [or zero-carbon] energy facility in parallel with the market based rate. Such contracts shall not be subject to [Commission and/or other relevant agency] oversight [except that:

1. The portion of such project(s) purchased by utility customers in parallel with this Act shall not be eligible to count toward the utility's renewable portfolio standard obligations].

**SECTION C. COMMISSION [AND/OR OTHER AGENCY] REQUIREMENTS.**

The [Commission and/or other relevant agency] shall, within 180 days of the submission of a completed application by a public utility [or a municipal utility or electric cooperative utility serving more than 100,000 customers], and after notice and opportunity for public comment, issue a decision concerning the utility's application. The [Commission and/or other relevant agency] shall approve the application if the [Commission and/or other relevant agency] determines that:

1. The Clean Energy Market Integration Act is just and reasonable;
2. The Clean Energy Market Integration Act can be reasonably expected to meet the needs of qualifying customers without impacting non-participating customers; and
3. The Clean Energy Market Integration Act is consistent with the requirements of this chapter, and with other applicable state laws and regulations.



## Direct Advanced Energy Procurement

### SAMPLE RESOLUTION: DIRECT CLEAN ENERGY CHOICE RESOLUTION

This resolution expresses the will of the legislature to enable voluntary purchases of renewable energy by directing the [Commission and/or other relevant agency] to initiate a rulemaking to allow direct retail electricity access for large customers of public utilities [and of municipal utilities or electric cooperative utilities serving more than 100,000 customers] only when those customers are pursuing renewable [or zero-carbon] energy as defined by § [State Code].

**WHEREAS**, many corporations and other electricity customers seek increased choice and control over their energy costs and energy sources; and

**WHEREAS**, a significant number of major companies and other electricity purchasers have codified their intention to make their operations more sustainable by establishing specific clean energy targets, and have announced their intention to meet these targets through renewable [or zero-carbon] energy purchases; and

**WHEREAS**, enabling such purchases will help develop the state's renewable resources, drive private investment, create local jobs, and improve the resource diversity of the electric grid; and

**WHEREAS**, corporations with clean energy or sustainability targets often consider their ability to access renewable [or zero-carbon] energy in their decision about where to locate their operations, offices, or facilities; and

**WHEREAS**, particularly for industries in which energy is a large operating expense, controlling energy costs confers significant competitive advantage; and

**WHEREAS**, different companies have different energy profiles and purchasing preferences when it comes to renewable energy procurement, and many desire to contract directly with renewable [or zero-carbon] energy facilities;

**THEREFORE BE IT RESOLVED** that the [Commission and/or other relevant agency] will initiate a rulemaking to allow certain large customers to purchase electricity from an alternate electricity supplier or bilateral contract, only when that supplier or contract is providing renewable [or zero-carbon] energy as defined by § [State Code] [including renewable energy combined with energy storage].



## SAMPLE BILL: DIRECT CLEAN ENERGY CHOICE ACT

This sample bill is based on legislation considered in Oregon in 2017.<sup>53</sup>

**Bill Summary:** Requires the [Commission and/or other relevant agency] to initiate a rulemaking to allow certain large customers to purchase electricity from an alternate electricity supplier or bilateral contract, only when that supplier or contract is providing renewable [or zero-carbon] energy [including renewable energy combined with energy storage].

**Be it enacted by [body] in [state]: § [State Code] is amended to read:**

### **SECTION A. COMMISSION [AND/OR OTHER AGENCY] REQUIREMENTS.**

No later than 90 days after passage of this Act, the [Commission and/or other relevant state agency] shall issue a proposal and initiate a rulemaking to allow retail nonresidential customers to stop receiving electricity service from their incumbent utility [including municipal utilities and electric cooperative utilities serving more than 100,000 customers] if they choose to purchase renewable [or zero-carbon] energy [including renewable energy combined with energy storage] from an alternate provider in the utility's distribution service territory [up to a maximum allowable total kilowatt-hours annual limit, to be established by the commission for each electrical corporation], subject to the following requirements:

1. Eligible retail nonresidential end-use customers electing to acquire electric service from other providers must purchase renewable [or zero-carbon] energy as defined by § [State Code] [including renewable energy combined with energy storage], except that electricity necessary for ancillary services may be generated by a resource that is not an eligible renewable energy resource if unbundled renewable energy certificates, as defined in § [State Code], associated with an amount of qualifying electricity, as defined in § [State Code], that is equivalent to the amount of electricity necessary for ancillary services are retired by or on behalf of the electric retail consumer that is receiving the electricity.
2. For purposes of this section, an alternate provider of renewable [or zero-carbon] energy means any person, corporation, or other entity that is authorized to provide electric service within the service territory of an electrical corporation pursuant to this chapter, and includes an aggregator, broker, or marketer, as defined in § [State Code], and an electric service provider, as defined in § [State Code].
3. To authorize direct transactions pursuant to subdivisions (1), (2), and (3), the [Commission and/or other relevant agency] shall do the following:
  - a. Consider any capacity benefits, fuel hedging benefits, regulatory benefits, congestion reduction benefits, or other system or local area reliability benefits realized by all customers as

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<sup>53</sup> Oregon SB 979, 79<sup>th</sup> Oregon Legislative Assembly, 2017 Regular Session, <https://olis.leg.state.or.us/liz/2017R1/Downloads/MeasureDocument/SB979/Introduced>.



a result of eligible retail nonresidential end-use customers pursuing renewable [or zero-carbon] energy according to this section; and

- b. Ensure that the costs of maintaining resource adequacy are equitably distributed, and allow for recovery of transition costs, provided that:
  - i. The electric company has demonstrated diligent efforts to mitigate any transition costs;
  - ii. Transmission costs account for benefits as determined per subdivision (3)(a);
  - iii. Transition charges and transition credits may not be applied to any renewable [or zero-carbon] direct access service serving a new nonresidential load; and
  - iv. The [Commission and/or other relevant agency] adopts by rule a limited term, not to exceed five years, after which a customer eligible for renewable direct access may not be required to pay any transition charges. Transition charges applied before the end of the term may not carry forward any costs or expenses beyond the end of the term.
4. The [Commission and/or other relevant agency] shall conclude this rulemaking and enact the provisions of this act within 180 days of initiation of this rulemaking.

#### **SECTION B. LIMITATIONS.**

Except as expressly authorized by this Act, and subject to the limitations in Section A, the right of retail end-use customers pursuant to this chapter to acquire service from other providers remains unchanged.



## Onsite Power Purchase Agreements

### SAMPLE RESOLUTION: HOME & BUSINESS ENERGY FREEDOM RESOLUTION

This resolution expresses the will of the legislature that an entity that constructs or operates an energy generating facility on a customer's property for the primary purpose of producing electricity, heat, or steam for sale to or for use by the customer is not a public utility or electricity supplier and is not subject to regulation by the [Commission and/or other relevant agency] so long as the facility is sized to supply no more than 125% of the average annual energy consumption of the customer at that site.

**WHEREAS**, many corporations and other electricity customers seek increased choice and control over their energy costs and energy sources; and

**WHEREAS**, a significant number of major companies and other electricity users have codified their intention to make their operations more sustainable by establishing specific clean energy targets; and

**WHEREAS**, corporations with sustainability or clean energy targets often consider their ability to access clean energy in their decision about where to locate their operations, offices, or facilities; and

**WHEREAS**, many corporations seek to source clean energy onsite from distributed energy resources such as wind, solar, combined heat and power, waste heat and power, microturbines, fuel cells, energy storage, small-scale hydropower, and more; and

**WHEREAS**, these distributed energy resources deliver long-term price certainty, require little or no fuel, produce few or no emissions, and use little or no water in the production of electricity; and

**WHEREAS**, directly financing, owning, and operating a distributed energy resource may not be financially or logistically practical for individual or corporate entities interested in pursuing onsite clean generation; and

**WHEREAS**, regulatory barriers may present challenges that prevent third-party providers from offering the necessary financing, ownership, and operation to enable such an arrangement; and

**WHEREAS**, developing the state's wind, solar, and other clean resources will drive private investment, create local jobs, and improve the resource diversity of the electric grid;

**THEREFORE BE IT RESOLVED** that an entity that constructs or operates a distributed energy facility on a customer's property for the primary purpose of producing electricity, heat, or steam for sale to or for the use by the customer is not a public utility or electricity supplier and is not subject to regulation by the [Commission and/or other relevant agency] so long as the facility is sized to supply no more than 125% of the average annual energy consumption of the customer at that site.





## SAMPLE BILL: HOME & BUSINESS ENERGY FREEDOM ACT

This bill is based on legislation considered in North Carolina during the 2015 legislative session.<sup>54</sup>

**Bill Summary:** This Act provides that an entity that constructs or operates an electric generating facility on a customer's property for the primary purpose of producing electricity, heat, or steam for sale to or for the use by the customer is not a public utility or electricity supplier and is not subject to regulation by the [Commission and/or other relevant agency] so long as the facility is sized to supply no more than 125% of the average annual energy consumption of the customer at that site.

**Be it enacted by [body] in [state]: § [State Code] is amended to read:**

### SECTION A. DEFINITIONS

As used in this [Chapter], unless the context otherwise requires, the term:

1. Public Utility: An entity, whether organized under the laws of this State or under the laws of any other state or country, now or hereafter owning or operating in this State equipment or facilities for:
  - a. Producing, generating, transmitting, delivering or furnishing electricity, piped gas, steam or any other like agency for the production of light, heat or power to or for the public for compensation; provided, however, that the term "public utility" shall not include (i) persons who construct or operate a distributed energy facility, the primary purpose of which facility is for such person's own use or the use of their tenants, and not for the primary purpose of producing electricity, heat, or steam for sale to or for the public for compensation, or (ii) a person who constructs or operates a distributed energy facility on the site of a customer's property and primarily sells the electricity produced by such facility to that customer, as provided by and subject to the limitations of § [State Code].
2. Distributed Energy Facility: a small power generation or storage facility designed to meet onsite needs.

### SECTION B. THIRD PARTY SALES FROM ONSITE DISTRIBUTED ENERGY FACILITIES.

1. The sale of electricity to a customer from a distributed energy facility, as defined in current code, owned and operated by a third party and located on the customer's property where such electricity will be consumed, shall not subject the third-party owner or operator of the onsite generating equipment to any restrictions on such sales or to regulation as a public utility under this [Chapter] so long as the facility is sized to supply no more than 125% of the average annual consumption of electricity by the customer at that site.

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<sup>54</sup> North Carolina HB 245, The Energy Freedom Act, 2015-2016 Session, available at <http://www.ncga.state.nc.us/gascripts/BillLookup/BillLookup.pl?Session=2015&BillID=H245&votesToView=all>.



2. For purposes of this section, the customer's site includes all contiguous property owned or leased by the customer, without regard to easements, public thoroughfares, transportation or utility rights-of-way, or other similar interruptions that may divide parcels of property under common ownership.
3. This section does not affect or otherwise limit the ability of a distributed energy facilities owned or operated by a third party under this section from participating in any state, local or utility local programs, including net metering, as regulated by the [Commission and/or other relevant agency]."

**SECTION C.** This act shall become effective 90 days after enactment.



## Shared Renewable Energy

### SAMPLE RESOLUTION & SAMPLE BILL: SHARED RENEWABLE ENERGY ENABLING RESOLUTION / ACT

AEE is collaborating with the Coalition for Community Solar Access (CCSA) to develop sample shared renewable energy program legislation, to be included as an addendum in late 2018.



## Optimizing Utility Planning

### SAMPLE RESOLUTION: ELECTRICITY RESOURCE OPTIMIZATION RESOLUTION

This resolution expresses the will of the legislature to improve electricity planning outcomes, meet the needs of corporations interested in pursuing renewable energy and other advanced energy technologies, and reduce the risk of stranded assets by directing the [Commission and/or other relevant agency] to explicitly take into account corporate demand for advanced energy when reviewing utility integrated resource plans.

**WHEREAS**, many corporations and other electricity customers seek increased choice and control over their energy costs and energy sources; and

**WHEREAS**, a significant number of major companies and other electricity purchasers have codified their intention to make their operations more sustainable by establishing specific clean energy targets, and announced their intention to meet these targets through renewable energy purchases, increased investment in energy efficiency, installation of demand-side resources such as energy storage and fuel cells, and reliance on other advanced energy technologies and services; and

**WHEREAS**, enabling such purchases will help develop and support the state's advanced energy resources, drive private investment, create local jobs, and improve the resource diversity of the electric grid; and

**WHEREAS**, utilities also develop long-term resource plans to ensure resource adequacy to meet customer needs, and may develop or purchase a range of different resources to meet those needs; and

**WHEREAS**, customer needs and preferences are not generally considered when developing such utility plans; and

**WHEREAS**, aligning customer needs and utility resource plans would result in more efficient and cost effective outcomes for all customers;

**THEREFORE BE IT RESOLVED** that the [Commission] will take into account corporate demand for advanced energy, including renewable energy, energy efficiency, energy storage, demand response, and other advanced technologies and services, when reviewing utility integrated resource plans.



## SAMPLE BILL: ELECTRICITY RESOURCE OPTIMIZATION ACT

**Bill Summary:** This Act directs the [Commission] to explicitly take into account corporate demand for advanced energy when reviewing utility integrated resource plans.

**Be it enacted by [body] in [state]: § [State Code] is amended to read:**

### SECTION A. COMMISSION REQUIREMENTS.

Within 90 days of the adoption of this Act, the [Commission and/or other relevant agency] shall take public comment to adopt rules as necessary to implement this section and shall, at a minimum, seek stakeholder input on the following:

1. The appropriate process and procedure for soliciting input from nonresidential retail customers as part of the utility integrated resource planning process;
2. The quantitative and qualitative items on which utilities should be required to solicit input from nonresidential retail customers, which may include but will not be limited to:
  - a. Customers' public renewable energy purchasing goals, energy efficiency savings goals, energy storage installation goals, planned onsite behind-the-meter electricity generation, and any other energy-related plans or targets in [State];
  - b. Potential new customer activity in the utility's service territory, and the needs and preferences of these customers;
  - c. Any anticipated plans for customers to exit the utility's jurisdiction to purchase directly from a renewable energy supplier; and
  - d. Any other information deemed appropriate or necessary;
3. Mechanisms to protect confidential customer data and other proprietary business information; and
4. The most effective and fair approach to incorporate customer preferences solicited according to (1) and (2) above into a utility's integrated resource plan, while ensuring best outcomes for all ratepayers.

Within 180 days of the initiation of this comment process, the [Commission] shall adopt rules ensuring that corporate demand for advanced energy is considered through the utility integrated resource planning process, to go into effect during the next upcoming utility resource planning cycle.

