

# CUSTOMER RENEWABLE ENERGY OPTIONS IN VIRGINIA

A GUIDE FOR POLICYMAKERS, REGULATORS, AND COMMERCIAL AND INDUSTRIAL CUSTOMERS

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# CUSTOMER RENEWABLE ENERGY OPTIONS: AN OVERVIEW

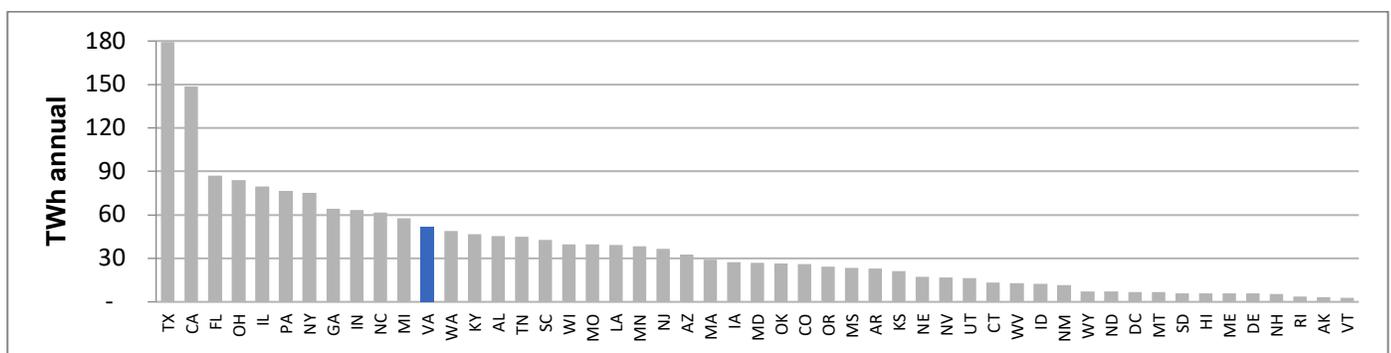
## Introduction to the Virginia Market

There is significant customer demand for renewable energy in Virginia. With strong manufacturing, technology, and retail sectors, the Commonwealth is home to a number of businesses that have set renewable energy targets. These targets add up quickly (Fig. 1, Table 2), with the potential demand far outstripping the nearly 600 MW contracted to date.<sup>1</sup> In 2016, a group of 18 companies with operations in the Commonwealth wrote to the State Corporation Commission (SCC), legislators, and the Governor saying, “Our ability to access power from renewable resources is essential to our corporate energy strategies.”<sup>2</sup>

The landscape of customer renewable energy options in Virginia is complex and

changing quickly. Virginia customers currently have a range of options to pursue renewable energy, including a rapidly evolving list of utility offerings—in 2017 alone, six renewable energy tariffs were either approved, rejected, proposed, or allowed to expire in the Commonwealth. While new options are generally a good thing for customers, all programs are not created equal. At the same time, the ability to purchase renewable energy from competitive service providers, an appealing option for many consumers, is the subject of significant legal uncertainty. Given the diversity of customer needs, these different options are valuable—but they can also be difficult to navigate, and still leave many customers without viable options to pursue renewable energy.

Figure 1 – Virginia C&I Electricity Load<sup>3</sup>



Virginia ranks 12<sup>th</sup> nationally in large commercial and industrial electricity consumption (a proxy for corporate load).



**Table 1 – Virginia C&I Renewable Energy Investment Potential<sup>4</sup>**

Total C&I RE Target	15%	25%	35%
Renewable Capacity (MW)	1,950	3,260	4,560
Investment Potential (\$ billion)	3.6	6.0	8.4

## Offsite Renewable Energy Purchasing Pathways

When customers seek renewable energy from offsite projects, the options available to them vary by state. In states with **fully or partially restructured electricity markets**, customers can choose their electricity provider, including the option to purchase renewable energy from a specific project or from a competitive supplier. Virginia allows limited retail choice, as described in more detail below (see Table 2).

In **vertically integrated markets**, customers instead rely on utility programs, broadly categorized as **renewable energy tariffs or green tariffs**. In other words, in the absence of customer choice, such offerings allow customers to choose renewable energy. As of mid-2018, there are nearly 20 programs approved or pending in 15 states.<sup>5</sup> While every program is different, they can be roughly categorized into four primary categories:

1. **Sleeved PPA programs** allow large customers to purchase energy from an offsite renewable project, with the electricity and the terms of the power purchase agreement (PPA) contract “sleeved” through that customer’s local utility and delivered to the customer. There are different options to bill customers under a sleeved PPA program, including riders that charge the PPA price and credit the customer back based on avoided cost, the

market value of the renewable project, or some other metric; and tariffs that charge customers for the various unbundled services they use, including the transmission and distribution charges, generation and capacity from renewable energy, and any generation and capacity not supplied by renewable energy.

2. **Subscription programs** serve multiple customers from the output of one or more renewable energy facilities owned or contracted by the utility. They can look very similar in structure to sleeved PPA programs, but generally provide customers with flexibility in terms of subscription size and length and may provide pricing information upfront.
3. **Market-based rates** replace the generation portion of a customer’s bill with a dynamic variable rate based on wholesale market prices. The market-based rate does not itself supply renewable energy, but it can work in parallel with a virtual PPA between a customer and a renewable energy project or a renewable energy offering from the utility, providing a more direct correlation between the customer’s electricity rates (per kWh usage) and the variable market price of the renewable energy and capacity sold into the wholesale market.



4. **System resource REC purchases** allow customers to offtake the renewable energy certificates (RECs) and any other environmental attributes from projects procured to meet system needs, with the customer's participation enabling the development of new renewable energy to meet the needs of all customers.

It is important to note that any of these program types may, when designed well, meet customer

needs—but an individual customer may prefer one program type over another. Given the variety of offerings that have already emerged across the country in just a few years since the first renewable energy tariffs were developed, it is also likely that additional categories of customer offerings will be developed through collaboration between customers and utilities as demand among customers for renewable energy continues to grow.

# GUIDE TO C&I RENEWABLE ENERGY OPTIONS IN VIRGINIA

Virginia customers have some limited opportunities to access renewable energy from competitive service providers, as well as a few different offerings from utilities. Virginia's largest utility, Dominion Energy (Dominion), has introduced multiple renewable energy offerings for customers, and Appalachian Power Company (APCo) has a program

proposal before the SCC. In addition, both utilities recently had programs rejected by the SCC. These options and programs are summarized in the text and tables below, starting with CSP options (Table 2), then Dominion offerings (Tables 3 and 4), and finally APCo proposals (Table 5).

## Competitive Service Provider Options

A law passed in 2007 gave Virginia customers limited access to customer choice options.<sup>6</sup> Specifically, customers can purchase from a CSP under one of three sections of Virginia Code:

- **§ 56-577 A3:** for individual customers with load greater than 5 MW but less than 1% of the utility's total load, and/or with peak demand over 90 MW;

- **§ 56-577 A4:** for customers that aggregate together their accounts and/or the accounts of multiple customers, to reach 5 MW (requires SCC approval);<sup>7</sup> or

- **§ 56-577 A5:** for customers who leave their incumbent utility to purchase 100% renewable energy from a CSP.

However, each provision has limitations. Under A3 and A4, customers must give five years'



advance notice to return to the service of their incumbent utility. While customers purchasing from a CSP under A5 do not face the same restriction (including customers eligible under A3 and A4, as affirmed by a recent Virginia Supreme Court decision<sup>8</sup>), the option gets

closed off as soon as the incumbent utility offers customers a 100% renewable energy option, the definition of which is the subject of ongoing debate.<sup>9</sup> These options are summarized in Table 2 below.

**Table 2 – Competitive Service Provider Options**

Program	Eligibility	Description	Pros	Cons
<b>100% Renewable Energy From CSPs</b> (Virginia Code § 56-577 A5)	Available for all customers, unless the incumbent utility provides a 100% renewable energy offering.	Under Virginia Code § 56-577 A5, any retail customer has the option to purchase 100% renewable energy from a competitive service provider if the incumbent utility does not offer such a product.	Gives customers flexibility in meeting their renewable energy needs cost-effectively.	To date, there are limited CSP RE offerings in Virginia, in part due to the potential for IOUs to close off this option.
<b>CSP Options for Large Customers</b> (Virginia Code § 56-577 A3 and A4)	Available for customers with demand over 5 MW (including aggregated customers) but less than 1% of the utility's peak load; and/or demand over 90 MW.	Under Virginia Code § 56-577 A3 and A4, eligible large customers can purchase electricity from a CSP licensed in Virginia, but must give the incumbent utility five years' notice to return to its service.	Gives customers flexibility in meeting their renewable energy needs cost-effectively.	The 5 MW eligibility limit and provision requiring customers to provide 5 years notice have limited customer use of this provision.

## Utility programs

Virginia's utilities have developed a number of renewable energy offerings, starting with Dominion's original Schedule Renewable

Generation (Schedule RG), which was approved in 2014 and expired in 2017 without ever being used. The tables below list offerings from



Dominion (Table 3, showing current offerings, and Table 4, showing pending and recently

rejected offerings) and APCo (Table 5, showing pending and recently rejected programs).

**Table 3 – Approved Dominion Energy Offerings**

Program	Eligibility	Description	Pros	Cons
<b>Schedule MBR (Market-based rate)</b> , approved 2016; expires 2022 (Case No. PUE-2015-00108)	Customer must have peak demand of 5 MW and a load factor of 85%; pilot program is capped at 200 MW.	Schedule MBR effectively replaces the generation portion of a customer’s bill with components that are based on wholesale energy, capacity, ancillary services, and administrative fees in the PJM market. Separately, customers can enter into a virtual PPA, and they have the option to rely on Dominion to schedule and administer those projects. The virtual PPA and the market-based rate effectively net out.	Allows customers to align their retail electricity costs and their virtual PPA, limiting market exposure and risk.	Eligibility restrictions and small program size limit availability to customers.
<b>Schedule RF (Renewable Facility)</b> , approved 2018 as a 5-year pilot (Case No. PUR-2017-00137)	Customer must be adding at least 30,000,000 kWh annual load.	Schedule RF allows customers to enter into a long-term agreement to offtake environmental attributes associated with a new renewable energy program, with the project output used to meet overall system needs. The customer commits to participate for the term of the renewable energy contract, and the program is a rider on top of the customer’s ordinary bill.	Customer receives RECs from a specific project, and has a clear impact on Virginia energy mix, playing a key role in enabling new renewable energy to meet the needs of all customers.	Only available to new customers. Customers will always pay a premium under this program.



**Table 4 – Pending & Rejected Dominion Energy Offerings**

Program	Eligibility	Description	Pros	Cons
<b>Schedule RG (Renewable Generation),</b> proposed 2017, approval pending <sup>10</sup> (Case No. PUR-2017-00163)	Customer must be on a principal tariff with annual load of at least 1 MW (at a single location or aggregated across locations); pilot program is capped at 50 customers.	As proposed, customers receive bundled REC and energy from a renewable energy project or projects procured by Dominion in response to customer enrollment, or brought to Dominion by the customer. Customers pay a renewable energy charge that is based on the PPA price for the resource, and are credited for the energy, capacity, and ancillary services the project delivers into the PJM market.	Gives new and existing customers access to bundled RECs and energy and relies on market-based solicitation and pricing. Customers have the option to bring a specific project to Dominion.	Schedule RG is designed as a companion to a customer’s existing tariff, which remains in effect, and does not provide customers with long-term price certainty.
<b>Schedule CRG (Continuous Renewable Generation),</b> rejected 2018 (Case No. PUR-2017-00060)	Non-residential customers with peak demand of at least 1 MW (at a single location or aggregated across locations).	Schedule CRG would match 100% of a customer’s electricity use on an hourly basis from a renewable energy portfolio sourced to meet CRG customer needs. The generation portion of the customer’s bill would be based on the cost of the CRG portfolio, with a full return on equity added to any PPAs.	Provides new and existing customers with bundled RECs and energy.	Approval would have precluded customers from seeking 100% RE from CSPs. Uncertain (likely high) fees. No option to participate at less than 100% of load.



**Table 5 – Pending & Rejected Appalachian Power Co. Offerings**

Program	Eligibility	Description	Pros	Cons
<b>Rider WWS (Wind, Water, Solar),</b> proposed December 2017 (Case No. PUR-2017-00179)	All customers taking firm service under a standard service schedule.	Rider WWS would match 100% of a customer’s electricity use on an hourly basis from existing and planned APCo resources (with new resources to be added as customers sign on). The net bill impact for the customer would be a premium based on the market price of RECs from the WWS portfolio (\$4.25/MWh initially) for the generation portion of their bill.	Provides new and existing customers with bundled RECs and energy.	Approval would preclude customers from seeking 100% RE from CSPs. Program applies a premium for customers.
<b>Rider REO (Renewable Energy Only),</b> rejected 2017 (Case No. PUE-2016-00051)	All customers taking standard service under a metered rate schedule.	Rider REO would match 100% of a customer’s electricity use on an hourly basis from existing APCo resources (with new resources to be added as customers signed on). Customers would be charged \$89.61/MWh initially for the generation portion of their bill, and the cost to customers would be adjusted annually to reflect the current renewable energy mix. Customers would be exempt from certain generation-related riders.	Provides new and existing customers with bundled RECs and energy.	Approval would have precluded customers from seeking 100% RE from CSPs. Program relied on existing, out-of-state resources that were priced significantly higher than currently available RE.



## Remaining Gaps

With a hybrid electricity market allowing limited customer choice, two approved renewable energy tariffs, and two pending tariff proposals, Virginia may have the most varied and complex market for corporate renewable energy purchasers across the country. For customers able to make use of one of the options, this works well; but, despite the variety of offerings, many customers are either closed out (by restrictive eligibility requirements) or unable to participate due to poor alignment with their individual needs and preferences. In addition, uncertainty around the future of CSP options remains a concern for many Virginia customers,

who might otherwise be able to pursue renewable energy projects tailored to their individual needs through competitive suppliers.

As legislators, regulators, utilities, and corporate purchasers consider future steps in Virginia, it is important to ensure that renewable energy options work for the full range of C&I customers. Virginia has already proven to be a leader in creative and novel renewable energy program offerings, and the Commonwealth has an opportunity to continue growth and innovation in this area.

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<sup>1</sup> See, Microsoft, “Microsoft adds 315 megawatts of new solar power in Virginia in largest corporate solar agreement in the United States” (March 21, 2018), <https://news.microsoft.com/2018/03/21/microsoft-adds-315-megawatts-of-new-solar-power-in-virginia-in-largest-corporate-solar-agreement-in-the-united-states/>; Amazon Web Services, “AWS & Sustainability,” accessed June 1, 2018, <https://aws.amazon.com/about-aws/sustainability/>; Rob Bernard, “New Renewable Energy Deal Delivers Additional Solar Energy in Virginia” (March 16, 2016), <https://blogs.microsoft.com/green/2016/03/16/new-renewable-energy-deal-delivers-additional-solar-energy-in-virginia/>.

<sup>2</sup> Advanced Energy Economy, *Giving Virginia Companies What They Want: Renewable Energy Options* (March 2017), <https://blog.aee.net/in-virginia-better-options-for-corporate-buyers-begin-with-this-redoing-dominions-renewable-energy-tariff>.

<sup>3</sup> Ibid.

<sup>4</sup> Public comment signed by 18 major corporations in response to Appalachian Power Company’s petition for approval of an 100% renewable energy rider, filed in PUD-2016-00051 (November 14, 2016), available at <http://www.scc.virginia.gov/docketsearch/DOCS/3bx201!.PDF>.

<sup>5</sup> World Resources Institute, *Green Tariffs in U.S. Regulated Electricity Markets* (Feb. 2018), available at [http://www.wri.org/sites/default/files/emerging-green-tariffs-in-us-regulated-electricity-markets\\_0.pdf](http://www.wri.org/sites/default/files/emerging-green-tariffs-in-us-regulated-electricity-markets_0.pdf).

<sup>6</sup> H 3068, An Act to Amend the Code of Virginia, Virginia General Assembly, Reconvened Sess. 2007, <http://lis.virginia.gov/cgi-bin/legp604.exe?071+ful+CHAP0888>.



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<sup>7</sup> The SCC approved the first aggregation request under 56-577 A4 in March 2018, for six retail accounts of Reynolds Group Holdings, Inc., a metals and packaging manufacturer. Walmart has also filed an aggregation request for over 160 locations in the Commonwealth. See, Will Reisinger, "SCC Decision Expands Access to Competitive Electricity Supply," GreeneHurlocker, available at <https://www.greenehurlocker.com/scc-decision-expands-access-to-competitive-electric-supply/>.

<sup>8</sup> The SCC in March 2017 ruled in Case No. PUE-2016-00094 that customers eligible to purchase from CSPs under Sections 56-577 A3 or A4 do not have to give 5 years' notice to return to their incumbent utility if they leave to purchase 100% renewable energy, as allowed under Section 56-577 A5. This decision was appealed to the Virginia Supreme Court, which upheld the SCC's ruling on March 29, 2018 (VEPCO v. State Corporation Commission, Case No. 171151, in the Supreme Court of Virginia).

<sup>9</sup> Note that the definition of "100% renewable energy" has not been specifically defined, except for a clarification from the SCC that providers cannot simply rely on renewable energy certificates (RECs) in amount matching a customer's electricity use. Utilities have argued that 100% renewable energy should be provided on a continuous basis, matching a customer's electricity use hour-by-hour rather than on an annual basis. The SCC has also recently ruled that CSPs cannot provide 100% renewable energy to cover only a portion of a customer's load (i.e., meeting 25% of a customer's load with 100% renewable energy), but the case has been appealed to the Virginia Supreme Court, and the appeal is still pending. See Case No. PUR-2017-00117.

<sup>10</sup> Advanced Energy Economy and Virginia Advanced Energy Economy are joint interveners in Case No. PUR-2017-00163 to approve Schedule RG.

