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EMERGING GREEN TARIFFS IN U.S. REGULATED ELECTRICITY MARKETS

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INTRODUCTION

Electricity customers—from residential to large industrial—want their energy purchases to increase the total amount of renewable energy currently on the electricity grid. Apart from environmental benefits and reputational advantages, greater use of renewable energy might allow customers to reduce their electricity bills and protect themselves against volatile fossil fuel-based power prices. The Corporate Renewable Energy Buyers' Principles, representing 44 million megawatt-hours (MWh), and growing, of renewable energy demand per year by 2020, is an example of this emerging trend to buy more renewable energy. As the Principles make clear, such customers want more than just the Renewable Energy Certificates (RECs) that allow them to credibly claim that they are using green power—they also want access to the long-term, fixed-price structure of renewable energy.

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Utilities are weighing how to meet this evolving customer interest in renewable energy. Outside of the existing competitive electricity markets, utility renewable energy or "green pricing" programs have typically only provided RECs at an additional cost. Because these programs offer only "unbundled" RECs, which match the energy they buy separately from their utility, the RECs usually do not provide a fixed cost of energy as protection against volatile fossil fuel prices. Green tariffs, or riders, are an emerging option for customers in markets where there is no functional retail electricity choice to access fixed-price renewable energy. Offered by local utilities and approved by state public utility commissions (PUCs), these programs allow eligible customers to buy both the energy from a renewable energy project and the RECs. Since the first green tariff was proposed by NV Energy in 2013, 10 green tariffs in 8 states have been proposed or approved. Green tariffs cater to customers' preference for a more direct financial connection to renewable energy projects, ideally within the same service territory or grid distribution area. Green tariffs can also offer greater economic value to customers than unbundled RECs alone.

Through green tariffs, traditional utilities may be able to offer renewable energy services as attractive as those buyers are able to access in competitive markets or through third-party financed "behind-the-meter" renewable energy services. Green tariffs may also provide greater flexibility and lower transaction costs than alternatives, given utilities' expertise and decades of experience in integrating generation technologies, aggregating customer demand, and reliably delivering least-cost resources.

Green tariff design considerations for utilities and regulators should include how to "set [fair and equitable] prices [which allow utilities to recover their costs], build a portfolio of resources, maximize both the customers' long-term commitment and their access to flexibility, mitigate the risk of stranded renewable energy assets, and consider both existing and new loads..."[1] Utilities and regulators must also protect non-green tariff customers from unfairly shouldering costs arising from implementation of the green tariff. Depending on local circumstances, utilities and regulators could consider justifying some cost-sharing by all customers if those costs lead to system-wide benefits (for example, reduced congestion) or positive externalities (for example, reduced emissions).

As utilities work toward meeting commercial and industrial customer demand for renewable energy, several models have emerged, including green tariffs, riders, and subscriber programs. Green tariffs and riders tend to serve a larger load by delivering a power purchase agreement (PPA) through the utility and directly to the customer. Subscriber programs allow customers to subscribe to very small amounts of energy from a larger renewable energy project(s) while the utility holds the PPA. Typically, neither a green tariff nor a subscriber program require the customer to pay the capital cost of the renewable energy facility.

Subscriber programs appear very similar to community solar, loosely defined as tariffs where multiple customers are virtually net-metered against a limited share of a local renewable energy project. However, subscriber programs usually do not carry positive balances from months where excess production occurs to winter billing periods with low solar production. This functionally serves as a credit to the customer. In contrast, community solar tends to mimic residential net metering and carry the credit for summer solar production forward to offset winter electricity use from the grid. Thus, subscriber programs do not accrue the same large positive energy balances for customers. Similarly, subscriber programs place much higher limits on the amount of renewable energy a customer can subscribe to. Community solar emerged as a way for residential customers who cannot install solar panels on their roofs to implement residential net metering, rather than as a way for commercial and industrial customers to procure renewable energy. As subscriber programs continue to emerge and pushback grows against financially generous net metering approaches by consumer advocates and utilities, the two products may converge, particularly in how they net out energy production against energy usage.

The following table is a compilation of emerging green tariff proposals and offerings for commercial and industrial customers in regulated markets in the United States. WRI's compilation utilizes expert partners' knowledge of existing and emerging green tariffs. WRI has closely reviewed the public utility commission dockets as a primary resource, and verified with utilities and customers when applicable.

The table excludes green pricing programs that rely on RECs but have no energy pricing component, for example, where RECs are a premium charge on top of the full retail electricity rate. It also excludes utility programs that can be classified as community choice aggregation or community solar.

The tariffs differ in which party initiates the renewable energy project negotiations—the utility or the customer. Procurement lead identifies who leads the relationship with the developer.

The design considerations listed above helped shape the criteria and characteristics highlighted in the table. They include: customer costs, facility flexibility, contract time commitment, program size limits, and risk management, among others. These are the characteristics that most often drive customers' purchasing decisions.

This table is regularly updated, but many utilities are moving forward quickly to offer new green tariffs. For complete and up-to-date details of each green tariff, see the appropriate docket or filing number listed in the table, or contact the offering utility and reference the interactive Corporate Renewable Energy Strategy Map, hosted on buyersprinciples.org.

COLORADO — XCEL ENERGY

TARIFF NAME	Renewable*Connect, Schedule RC
TARIFF TYPE	Rider; Subscriber Product
PILOT SIZE/PERIOD	Capped at 50 MW.
TARIFF/CONTRACT STRUCTURE	Xcel enters into a 20-year PPA with solar facilities. Second contract between Xcel and customer for solar subscription assigns RE capacity share and costs.
CUSTOMER COST STRUCTURE	Standard retail rate applies plus Renewable*Connect charge and Renewable*Connect bill credit. Renewable*Connect charge, updated annually for new subscribers, consists of: • the RE resource as negotiated in the PPA, • the solar integration costs of intermittent solar generation, • program administration costs, and • a subscription risk adjustment fee. Renewable*Connect credit consists of an avoided energy credit, updated annually, and a fixed avoided capacity credit. The avoided energy credit will be calculated based on an approved qualifying facility energy component. The avoided capacity credit will be calculated based on the 2018 projection of a 50 MW solar resources over the 10 years following 2018. Fixed early termination fee for customers on a 5- or 10-year contract.
ADMINISTRATIVE FEE	Included in customer cost structure on a per kWh charge.
VALUE OF RE PRICE CERTAINTY	Customers lock-in contract price and contract term length at the time of subscription; the credit is updated annually and it is possible to see lower utility bills if the credit exceeds the charge.
PROCUREMENT LEAD	Xcel negotiates with the solar facility or facilities, and enters a PPA; customers can choose not to subscribe to the offering, but do not have any control over the PPA price.
BUNDLED RECs MANAGEMENT	Xcel will either retire RECs on behalf of the subscribing customer or transfer RECs to a Western Renewable Energy Generation Information System account.
CUSTOMER FACILITY FLEXIBILITY	The contract can be assigned to a new meter if: • new location is within Xcel's service territory, and • the subscription does not exceed 100% of customer's load at new location. If consumption during the first 12 months at the new meter is lower than the prior consumption, the contract will be readjusted to a participation level that matches the 12-month energy usage at the new meter; the customer will pay a pro-rated portion of the early termination fee. The original subscription term will continue to apply to the transferred subscription.
CONTRACT TIME COMMITMENT	Three options: month-to-month, 5 years, and 10 years; longer terms have lower prices.

COLORADO — XCEL ENERGY

CUSTOMER LIMITATIONS/ ELIGIBILITY	Customers on rate schedules: R, RD, C, SG, SGL, PG, and TG. At the time of Customer's initial subscription, renewal or transfer, the maximum participation level is the lower of: • 100% of their previous year's usage, or • 10% of the total capacity of Renewable*Connect. Corporate entities with multiple premises cannot subscribe to more than 40% of the total capacity of Renewable*Connect. Each corporate premise is limited to an allocation not to exceed 100% of that premise's energy consumption. The first 8 weeks of the program, subscriptions are limited to residential and commercial customers, then the program will be available to all retail customers.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Not explicit in the filing.
IMPACT ON NET-METERING (ONSITE RESOURCES)	Customers can subscribe the portion of their consumption not already subscribed to other programs.
RE FACILITY LIMITATIONS/ ELIGIBILITY	Photovoltaic solar resource no smaller than 5 MW and no larger than 50 MW. Xcel has jointly filed for approval of a request for proposal to enter into a PPA with a new 50 MW solar resource to have RE available as soon as possible.
COMMERCIAL RISK MANAGEMENT	Excess RE generated from the facility will be dispatched into the larger system though this will likely be at a lower price than the PPA costs Xcel; the risk adjustment fee shifts some of this risk to the subscribing customers. Xcel retains the right to excess revenues limited to its prevailing weighted average cost of capital. If excess revenues collected exceed its weighted average cost of capital, customers will receive a credit back through the Renewable Energy Standard Adjustment. If supplier fails to deliver, Xcel is not held liable.
PUC PROCESS	Filed with Colorado PUC on January 27, 2016.
STATUS/RE DEALS SIGNED	Rider has not yet been approved by Commission.
DOCKET INFORMATION	16A-0055E

MINNESOTA — XCEL ENERGY

TARIFF NAME	Renewable*Connect
TARIFF TYPE	Pilot Tariff; Subscriber Product
PILOT SIZE/PERIOD	Blend of solar and wind resources to match system average on and off peak demand; up to 50 MW of wind and 25 MW of solar. Available for 10 years.
TARIFF/CONTRACT STRUCTURE	Customer usage settled monthly. Blend of resources assigned to pilot tranche will determine the fixed kWh price of program which replaces the fuel clause charge. Customers can choose 100 kWh blocks or 100% of their annual load. Three contract lengths: month-to-month, 5 years, and 10 year.
CUSTOMER COST STRUCTURE	Stated kWh price for customers based on 1. resource cost, 2. capacity credit, 3. 'neutrality adjustment', and 4. administrative costs. The capacity credit for Renewable*Connect customers reflects the market-based value of the capacity of the renewable energy project in the regional market. The capacity credit is calculated based on the capacity value earned by the project in the market and is credited to the customer per kWh they purchase from the project. Capacity value is the product of the Midcontinent Independent System Operator (MISO) accreditation percentage. Resource cost for 5- and 10-year contract customers based on wind and solar PPAs; month-to-month contract customers "reflects a 10 year partially levelized cost for the wind and solar resources." 'Neutrality adjustment' (or 'neutrality charge') is an attempt to avoid cost shifting to non-participant customers; charge includes line and curtailment losses and the cost of integrating variable RE and stranded asset effects, among others; some new load is exempt from the 'neutrality adjustment'. Administrative costs lower for longer term customers; 'neutrality charge' lower in years 6-10 for 10-year contract customers.
ADMINISTRATIVE FEE	Included in customer cost structure, charged on per kWh basis; range from ¢0.1-0.55/kWh depending on contract length and year.
VALUE OF RE PRICE CERTAINTY	Fuel clause charge is currently ~20% of customers' bills; fuel clause charge is replaced with a fixed charge for each year of the program which result in an "initial premium" but provides "certainty about…future energy costs" as it does not fluctuate with fuel costs (i.e. there is potential savings if the fuel clause charge increases substantially).
PROCUREMENT LEAD	Xcel solely procures the resource.
BUNDLED RECs MANAGEMENT	RECs are retired by Xcel on customers' behalf (above compliance requirements); RECs registered with M-RETS and Xcel Energy will pursue Green-e certification.
CUSTOMER FACILITY FLEXIBILITY	Switchable for customers moving within the service territory.

MINNESOTA — XCEL ENERGY

CONTRACT TIME COMMITMENT	Three options: month-to-month, 5 years, and 10 years; longer terms have lower prices.
CUSTOMER LIMITATIONS/ELIGIBILITY	Available to all residential, commercial, and industrial customers paying fuel clause charge. New and existing load eligible to purchase up to 100% of their load as long as it does not exceed 10% of the total available amount under this pilot program.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Not explicitly stated in filing.
IMPACT ON NET-METERING (ONSITE RESOURCES)	Customers are allowed to participate in net-metering and other programs; total energy from net-metering, Renewable*Connect, and all other programs combined cannot exceed 100% of customer usage.
RE FACILITY LIMITATIONS/ELIGIBILITY	Xcel wind and solar resources that have recently been approved by the PUC; Odell Wind Farm and North Star Solar Project. Pilot includes facilities already approved in order to offer customers pilot as soon as possible. Program expansion may include other suppliers or Xcel Energy-owned assets.
COMMERCIAL RISK MANAGEMENT	Month-to-month customers can terminate their contract at any time. 5- and 10-year contract customers are subject to an early termination penalty of $10/MWh multiplied by the customer's last 12 months of usage; not allowed to move same load to another "tranche" of Renewable*Connect resources. Full cost of program covered by customers; any unsubscribed energy from wind and solar resource recovers cost through fuel clause charge to non-participant customers.
PUC PROCESS	Filed with Minnesota PUC on November 12th, 2015.
STATUS/ RE DEALS SIGNED	Proposed tariff is pending approval, however, projects have already been approved by PUC and the PPAs have been signed by Xcel.
DOCKET INFORMATION	Docket E002/M-15-985

NEVADA — NV ENERGY

TARIFF NAME	Green Energy Rider, Schedule NGR
TARIFF TYPE	Rider; Subscriber Product
PILOT SIZE/ PERIOD	Capped at 250,000 MWh although NV Energy can choose not to count special contracts against the total.
TARIFF/ CONTRACT STRUCTURE	Two options for commercial customers: 1. to contract directly with NV Energy for 50 or 100 percent of monthly electricity usage, or 2. customer and NV Energy enter special contract for dedication of new or existing RE resources to the customer (this table focuses on option 2, which bundles energy and RECs).
CUSTOMER COST STRUCTURE	Standard "otherwise applicable rate schedules" apply plus the full cost of the specific facility on a kWh basis. The NGR Rider rate for small customers is the 12-month average cost of the utility RE resources less the base tariff energy rate and the standard temporary RE development charge (recalculated quarterly). Special contract customers negotiate a cost structure that ensures there is no cost shifting to other ratepayers. The agreement requires approval by the PUC.
ADMINISTRATIVE FEE	Cost recovery will be determined in the PUC review of the special contract.
VALUE OF RE PRICE CERTAINTY	Unspecified in the filing whether the NGR rider can be negative for special contract customers and appear as a bill credit against the otherwise applicable rate schedules. Contracts to date have avoided an explicit credit in any billing period but have utilized long-term avoided cost projections as a credit against long-term solar PPA prices. Protection from fuel clause adjustments may also be included in negotiations to deliver more of the fixed-price value of RE.
PROCUREMENT LEAD	In practice, procurement has been collaborative between the utility and customers.
BUNDLED RECs MANAGEMENT	RECs will be retired against the RPS requirement for the customer's load first. RECs will then be retired for the incremental energy sold under the NGR beyond the RPS requirement.
CUSTOMER FACILITY FLEXIBILITY	Not defined in filing but designed primarily for large facilities rather than retail meters.
CONTRACT TIME COMMITMENT	Negotiated but not less than two years.
CUSTOMER LIMITATIONS/ ELIGIBILITY	Northern Nevada: GS-2 meters or larger, demand between 50 and 500 kW or monthly usage larger than 10,000 kWh. Southern Nevada: LGS-1 meters and larger, monthly usage larger than 3,500 kWh. Customers can subscribe a portion or all of their energy consumption.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Not explicit in the filing but limitations are described by meter, so unlikely.
IMPACT ON NET-METERING (ONSITE RESOURCES)	NV Energy is not prohibited from also accepting net-metered energy from customers.
RE FACILITY LIMITATIONS/ ELIGIBILITY	The power can be owned or procured by NV Energy. No geographic limitations seem to be explicitly set.

NEVADA — NV ENERGY

COMMERCIAL RISK MANAGEMENT	All contract risk falls on the customer. PUC must approve the contract demonstrating benefits to the customer, NV Energy, and non-participating customers.
PUC PROCESS	Approved September 9, 2013. NV Energy applied to extend the special contraction option of the rider to Southern Nevada via docket 14-0631, the PUC approved November 13, 2014.
STATUS/ RE DEALS SIGNED	Apple Fort Churchill project 15-20 MW of solar approved in Docket 13-07005. Switch Station project approved in Docket 15-08005. Switch (79 MW of solar in Docket 15-11028) and Apple (50 MW of solar in Docket 15-11025) renewable energy agreements approved. City of Las Vegas renewable energy agreement approved in Docket 15-11026.
DOCKET INFORMATION	Docket 12-11023 (Northern Nevada) and 14-06031 (Southern Nevada)

NEW MEXICO — PUBLIC SERVICE COMPANY OF NEW MEXICO (PNM)

TARIFF NAME	Green Energy Rider, Rider No. 47
TARIFF TYPE	Rider; Sleeved PPA
PILOT SIZE/PERIOD	Initial and additional renewable procurements require Commission approval.
TARIFF/CONTRACT STRUCTURE	Customer enters into Special Service Contract with PNM, subject to approval by the New Mexico Public Regulation Commission. Contract minimum demand is 10 MW of RE. PNM makes necessary renewable procurement, which can be either owned or contracted through a PPA.
CUSTOMER COST STRUCTURE	Special Service Rate, No. 36B, applies plus Green Energy rate; this rate recovers customer cost, allocated transmission, and production costs along with any fuel costs. Green energy rate consists of all costs associated with the initial RE procurements and the cost of any additional RE procurement. Excess Energy Production Credit for the amount of RE produced in excess of the amount consumed in each hour of the billing period, based on the Palo Verde market price during these hours. Early termination fee.
ADMINISTRATIVE FEE	None.

NEW MEXICO — PUBLIC SERVICE COMPANY OF NEW MEXICO (PNM)

VALUE OF RE PRICE CERTAINTY	Not explicit in the filing.
PROCUREMENT LEAD	Customer and utility work collaboratively to identify appropriate RE resources. Customer may initiate procurement of additional RE.
BUNDLED RECs MANAGEMENT	RECs are registered with Western Renewable Energy Generation Information System on customer's behalf. If customer's usage exceeds energy supplied under the Initial Solar Facilities PPA (and any additional renewable energy procurement agreement), customer may elect to have PNM procure RECs equal to excess use from PNM at the cost to the customer.
CUSTOMER FACILITY FLEXIBILITY	Customer may not move between sites.
CONTRACT TIME COMMITMENT	Special Service Contract must have the same term as the customer's payment obligation for the RE procurements.
CUSTOMER LIMITATIONS/ ELIGIBILITY	New customers only that cause at least 10 MW of renewable resources to be acquired by PNM. Customer must achieve a load factor of at least 75%.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Aggregation is not allowed.
IMPACT ON NET-METERING (ONSITE RESOURCES)	No limitations defined in the filing.
RE FACILITY LIMITATIONS/ ELIGIBILITY	RE secured under Additional Renewable Energy Procurements open to PNM, PNMR, or other third parties. RE must adhere to the requirements governed by the Federal Energy Regulatory Commission generation interconnection process.
COMMERCIAL RISK MANAGEMENT	Customer is liable for early termination payments on any remaining RE procurement obligations. In the event of a delay or failure to deliver RE or RECs, PNM will offset the costs to supply RE from an alternative source and the equivalent RECs with proceeds from damages, credit support or other compensation from the supplier who failed to deliver.
PUC PROCESS	Approved August 17, 2016.
STATUS/RE DEALS SIGNED	PNM's Special Service Contract with Facebook was approved alongside the Rider on August 17, 2016.
DOCKET INFORMATION	Docket 16-00191-UT

NORTH CAROLINA — DUKE ENERGY

TARIFF NAME	Green Source Rider, Rider GS
TARIFF TYPE	Rider; Sleeved PPA
PILOT SIZE/ PERIOD	Capped at 1,000,000 MWh or three-year enrollment period, whichever occurs first and new applications will not be received after 12/31/16.
TARIFF/ CONTRACT STRUCTURE	Customer makes request and commitment for a certain amount of RE. Duke will dedicate output from one of its facilities or procure RE through a PPA with an independent facility to try to match the source with a customer's annual demand, RECs and contract term. If supplier fails to deliver, Duke will attempt to find a replacement.
CUSTOMER COST STRUCTURE	Standard general service tariff and all riders apply plus the total cost of the PPA and RECs (Rider GS) determined on an hourly basis. Customer receives bill credit for "all in" avoided capacity and energy costs for the RE produced over the month to offset the premium. Early termination fee equal to the net present value of the remaining PPA cost.
ADMINISTRATIVE FEE	$2,000 application fee. $500 fee per meter, plus 0.02 cents per kWh surcharge on RE purchased.
VALUE OF RE PRICE CERTAINTY	No exemption from the fuel price surcharges or any other riders; however, the allocation of actual fuel costs to GS customers as a class will be reduced by the fuel-related component of the avoided energy credit and the balance of actual fuel costs allocated instead to non-GS customers. Bill credit for the avoided cost of the RE cannot exceed the actual cost of PPA and RECs.
PROCUREMENT LEAD	Duke will negotiate with the facility, but customers have the right to review the offer and the estimated bill credit and not go forward.
BUNDLED RECs MANAGEMENT	Retired by Duke on behalf of the customer using NC-RETs.
CUSTOMER FACILITY FLEXIBILITY	Customers do not expect Duke to allow moving contracts between meters.
CONTRACT TIME COMMITMENT	Negotiated. 3-15 years.
CUSTOMER LIMITATIONS/ ELIGIBILITY	DEC NC customers only—formerly Progress service territory is not eligible. Non-residential customers, OPT-V tariffs only (previously OPT-G,OPT-H, OPT-I). OPT-V: Optional power service, time of use with voltage differential. New loads of at least 1 MW since July 30, 2012.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Customers may aggregate multiple facilities for the contract and to reach the 1 MW floor.

NORTH CAROLINA — DUKE ENERGY

IMPACT ON NET-METERING (ONSITE RESOURCES)	No limitations defined in the filing.
RE FACILITY LIMITATIONS/ ELIGIBILITY	Duke Carolina RE facility or independent RE facility. RE facilities operational on or after 2007. Solar facility must be located within Duke Energy Carolinas jurisdiction, either DEC NC or DEC SC. Formerly Progress service territories are excluded.
COMMERCIAL RISK MANAGEMENT	Customer must provide a letter of credit, surety bond or other form of security for payment of all costs (PPA, RECs, etc.). All contract risk falls on customer.
PUC PROCESS	Approved December 19, 2013.
STATUS/ RE DEALS SIGNED	Google solar project in Rutherford County; 2 additional solar projects with an anonymous company; and 1 additional customer has entered into 3 renewable energy agreements on a confidential basis.
DOCKET INFORMATION	Docket E-7, Sub 1043

UTAH — ROCKY MOUNTAIN POWER (RMP)

TARIFF NAME	Service From Renewable Energy Facilities, Schedule 32
TARIFF TYPE	Tariff; Sleeved PPA
PILOT SIZE/ PERIOD	Capped at 300 MW total peak delivered to all customers. PUC can increase without returning to the legislature.
TARIFF/ CONTRACT STRUCTURE	RE facility is selected by the customer, not RMP. Two contracts: 1. between RMP and the customer, and 2. between RMP and the RE facility. Same pricing and duration for both contracts. RMP takes ownership of the electricity from RE facility.
CUSTOMER COST STRUCTURE	RE is charged at the price negotiated between the customer and the developer of the RE facility; distribution and delivery charges are priced at rates specific to this tariff. Daily demand charges apply to the renewable energy contract capacity. Supplemental energy and supplemental demand priced at rates from the otherwise applicable tariff for the customer. Services are balanced at every 15 minute interval for every meter; excess generation in the 15 minute block cannot be credited to the customer or allocated to another meter.

UTAH — ROCKY MOUNTAIN POWER (RMP)

ADMINISTRATIVE FEE	Administrative charges of $150 per month for each delivery point (meter) and $110 per generator per month, irrespective of the number of delivery points.
VALUE OF RE PRICE CERTAINTY	New schedule that could theoretically deliver lower cost than standard retail rates. Reduced exposure to fuel price volatility to the degree that energy is procured from RE facility, subject to backfilling RE generation with supplemental and backup service.
PROCUREMENT LEAD	Customers bring the PPA to RMP and lead on the PPA negotiations.
BUNDLED RECs MANAGEMENT	REC contracts are directly between RE facility and the customer.
CUSTOMER FACILITY FLEXIBILITY	RE facility can service multiple customers or customer meters; a customer served by multiple RE facilities will pay a monthly fee for each facility.
CONTRACT TIME COMMITMENT	Negotiated. Identical for both contracts.
CUSTOMER LIMITATIONS/ ELIGIBILITY	Only customers otherwise on Schedules 6, 8, or 9. Schedule 6: non-residential customers with a load less than 1,000 kW (distribution voltage). Schedule 8: load of 1,000 kW or more (distribution voltage). Schedule 9: high voltage customers. Customers must contract for 2 MW or more and cannot contract for more capacity in MW than their peak demand. This limitation combined with the 15 minute matching of resource to demand means the tariff likely limits the ability to reach a 100% renewable energy goal.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Aggregation of meters by a single customer is allowed to meet the 2 MW minimum, but fees and power produced/ used in 15 minute usage blocks are by meter.
IMPACT ON NET-METERING (ONSITE RESOURCES)	Net-metering of electricity purchased from the facility by customers is not allowed.
RE FACILITY LIMITATIONS/ ELIGIBILITY	Limited to facilities in Utah. Can be owned by the customer, the utility, a third party, or a combination.
COMMERCIAL RISK MANAGEMENT	Customer must prove reasonable credit.
PUC PROCESS	Approved March 20, 2015. Directing legislation, SB 12 was effective May 8, 2012.
STATUS/RE DEALS SIGNED	RMP has introduced a Subscriber Solar Program (Schedule 73) in Docket 15-035-61 that Schedule 32 customers could access in order to simplify procurement.
DOCKET INFORMATION	Docket 14-035-T02, implementing SB 12

UTAH — ROCKY MOUNTAIN POWER

TARIFF NAME	Renewable Energy Purchases for Qualified Customers, Schedule 34
TARIFF TYPE	Tariff; Sleeved PPA
PILOT SIZE/PERIOD	No cap on customers.
TARIFF/CONTRACT STRUCTURE	Customer enters into contract with Rocky Mountain Power; Rocky Mountain Power enters the PPA.
CUSTOMER COST STRUCTURE	Two options: 1. Standard tariff rate + incremental charge. Incremental charge is equivalent to the difference between the RE cost and the avoided cost. 2. Standard tariff rate +/- alternative methodology. Alternative methodology is set forth in contract and subject to commission approval or finding that it is in the public's best interest. Customer is responsible for all costs related to contract for remaining term with early termination.
ADMINISTRATIVE FEE	Proposed $5,000 application fee. $110 per generation source and $150 per delivery point. $50 per any additional delivery points.
VALUE OF RE PRICE CERTAINTY	The tariff can be negative for special contract customers and appear as a bill credit against the otherwise applicable rate schedules. Protection from fuel clause adjustments and other rate disaggregation may also be included in negotiations for new customers to deliver more of the fixed price value of RE.
PROCUREMENT LEAD	Customer and Rocky Mountain Power work together to identify RE resources.
BUNDLED RECs MANAGEMENT	RECs will be deposited into an account maintained by or on behalf of the Customer, and will be retired.
CUSTOMER FACILITY FLEXIBILITY	Renewable resource is transferrable to another customer who takes service under the tariff.
CONTRACT TIME COMMITMENT	At a minimum, customer contract with RMP must match the length of time in the RE facility contract.
CUSTOMER LIMITATIONS/ ELIGIBILITY	Only customers with an aggregate electric load of at least 5 MW based on peak annual demand.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Aggregation of meters by a single customer is allowed to meet the 5 MW minimum; aggregation is not allowed beyond this initial qualifier. One application fee will be assessed on a customer aggregating multiple points of delivery. RE facility can service multiple customers or customer meters; a customer served by multiple RE facilities will pay a monthly fee for each facility.
IMPACT ON NET-METERING (ONSITE RESOURCES)	Not specified in the filing.
RE FACILITY LIMITATIONS/ ELIGIBILITY	Can be owned by the utility, the customer, or a third party. RE resource must include bundled RECs.

UTAH — ROCKY MOUNTAIN POWER

COMMERCIAL RISK MANAGEMENT	Customer must prove reasonable credit.
PUC PROCESS	Approved August 18, 2016.
STATUS/RE DEALS SIGNED	Facebook deal utilizing the tariff was approved August 29, 2016 (Docket 16-035-27).
DOCKET INFORMATION	Docket 16-035-T09

VIRGINIA — DOMINION VIRGINIA POWER

TARIFF NAME	Renewable Energy Supply Service, Schedule RG
TARIFF TYPE	Rider; Sleeved PPA
PILOT SIZE/ PERIOD	Capped at 240,000 MWh, 100 customers, or 3-year enrollment period, whichever occurs first.
TARIFF/ CONTRACT STRUCTURE	Customer can request a specific RE facility/resource and RE purchase size. Dominion negotiates and enters into a Renewable Energy Purchase and Sales Agreement (REPSA) with the generator. Second contract between Dominion and the customer assigns costs and risks to the customer.
CUSTOMER COST STRUCTURE	Customer energy consumption and RE generation is settled on 30 minute interval. All non-energy GS tariff rates and riders still apply except fuel surcharge. If customer uses more energy than RE generation in a given interval, the customer is charged the "REPSA" rate for their consumption up to RE generation and the energy component of the GS tariff for consumption above. If customer uses less energy than RE generation in a given interval, the customer is charged the "REPSA" rate for all RE generation and is repaid at an "avoided cost" rate for all RE generation above their consumption.
ADMINISTRATIVE FEE	$500 per meter per month.
VALUE OF RE PRICE CERTAINTY	Rider is on top of the GS tariff, but the customer is exempted from the fuel surcharge rider. Theoretically Schedule RG could save customers over the GS tariff if the "avoided cost" rate is high and REPSA rate is below the energy component of the GS tariff.
PROCUREMENT LEAD	Dominion negotiates with the facility and customers; customers have veto right with no impact on Dominion.
BUNDLED RECs MANAGEMENT	Retired or transferred to the customer, but not sold on behalf of the customer.
CUSTOMER FACILITY FLEXIBILITY	One customer is limited to RE from one RE facility.
CONTRACT TIME COMMITMENT	Determined by the REPSA and customer requirements, 10 years suggested.

VIRGINIA — DOMINION VIRGINIA POWER

CUSTOMER LIMITATIONS/ ELIGIBILITY	Non-residential, commercial customers on GS-3 and GS-4 tariffs. Demand greater than 500 kW. Customers contract for an individual purchase of RE between 1,000-24,000 MWh per year.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Aggregation is not allowed.
IMPACT ON NET-METERING (ONSITE RESOURCES)	Customers cannot participate in this tariff and also net-meter.
RE FACILITY LIMITATIONS/ ELIGIBILITY	RE facilities within the PJM Interconnection.
COMMERCIAL RISK MANAGEMENT	All contract risk falls on the customer, including risk or liabilities assigned to Dominion in the REPSA.
PUC PROCESS	Approved December 16, 2013.
STATUS/ RE DEALS SIGNED	Dominion reports that the rider has not been used to date.
DOCKET INFORMATION	Case PUE-2012-00142

VIRGINIA — DOMINION VIRGINIA POWER

TARIFF NAME	Schedule MBR
TARIFF TYPE	Tariff; Contract for Difference/Virtual PPA
PILOT SIZE/PERIOD	Capped at 200 MW. 60 days after approval from Commission, customers can enroll until November 1, 2019 or until cap is reached, whichever occurs first. Concludes on December 31, 2022.
TARIFF/CONTRACT STRUCTURE	MBR is attractive to customers that are independently contracting with a renewable energy facility in the PJM region through a virtual PPA. Their renewable energy contract is exposed to the volatility of the PJM markets. Companion tariff to the standard Rate Schedule GS-3 or GS-4, with a market-based rate (MBR) reflecting the PJM Interconnection wholesale market prices. Minimum term of 3 years, with automatic renewals, on a year-to-year basis.

VIRGINIA — DOMINION VIRGINIA POWER

CUSTOMER COST STRUCTURE	Rate Schedules reflect pricing in the PJM Interconnection wholesale market. Rate design components: • Generation Capacity Charge = all kW of generation demand @ generation demand billing rate per kW, • Generation Energy Charge = all kWh @ day-ahead of locational marginal price per kWh, • PJM Ancillary Service Charge, and • PJM Administrative Fee Charge. Margin charge for each kWh of total monthly energy consumption. Charge covers any differences between the MBR and the actual marginal PJM costs to serve participating customers (and provides some contribution to administrative and fixed costs for Dominion Virginia Power). Depending on PJM pricing and usage levels, net MBR charge—variance between MBR charges and applicable Rate Schedule GS-3 of GS-4 charges—could result in either a credit or a charge.
ADMINISTRATIVE FEE	Included in customer cost structure, charged on per kWh basis.
VALUE OF RE PRICE CERTAINTY	By linking their cost of electricity directly to the same market, customers offset any high cost of power consumed from the market with the revenue from the high price their renewable energy earned in the market.
PROCUREMENT LEAD	Not applicable.
BUNDLED RECs MANAGEMENT	Not applicable.
CUSTOMER FACILITY FLEXIBILITY	Not applicable.
CONTRACT TIME COMMITMENT	Minimum 3 years.
CUSTOMER LIMITATIONS/ ELIGIBILITY	High load-factor commercial and industrial customers. Customers who would otherwise take service under GS-3 (non-residential secondary voltage customer) or GS-4 rate (non-residential transmission or primary voltage) schedules. Must also have: • A measured peak demand of 5 MW or more during at least 3 billing months in the current and previous 11 billing months, • Billing history with Dominion Virginia Power for at least 12 consecutive billing months in the current and previous 11 billing months, and • An average monthly load factor of at least 85%.
AGGREGATION OF CUSTOMER FACILITY DEMAND	Tariff is applied to individual meters only.
IMPACT ON NET-METERING (ONSITE RESOURCES)	Not applicable.
RE FACILITY LIMITATIONS/ ELIGIBILITY	Not applicable, though contracts for RE facilities in the PJM market with similar locational marginal price profiles would be ideal to maximize the value of the MBR product.
COMMERCIAL RISK MANAGEMENT	Customer bears all risks associated with market volatility. Customer must sign an officer certification affidavit certifying that the customer understands the risks and potential rate volatility.
PUC PROCESS	Approved September 23, 2016.
STATUS/RE DEALS SIGNED	The tariff has not been used to date.
DOCKET INFORMATION	Docket PUE-2015-00108

WASHINGTON — PUGET SOUND ENERGY

TARIFF NAME	Long Term Renewable Energy Purchase Rider, Schedule No. 139
TARIFF TYPE	Tariff; Subscriber Product
PILOT SIZE/ PERIOD	Up to 75 MW total; will be re-evaluated when 75 MW is reached. Available after January 1, 2017.
TARIFF/ CONTRACT STRUCTURE	Customer enters into Service Agreement with PSE that outlines energy costs for RE resources. Customer must contract for 100% of the load at all meters located at each service address. PSE signs fixed price, 15-20 year contract with RE generators.
CUSTOMER COST STRUCTURE	Energy related costs in standard schedule is replaced by the RE contract PSE signs plus expenses; other standard schedule elements and rates (e.g. demand charges) remain the same. Penalty for early exit.
ADMINISTRATIVE FEE	Captured in the cost of the service agreement.
VALUE OF RE PRICE CERTAINTY	The customer is shielded from increases to the standard energy charge, including power cost adjustments, etc. Not shielded from changes to monthly fees, demand charges, etc. If the RE price in the service agreement falls below the utility mix energy price, customer will pay the lower rate.
PROCUREMENT LEAD	Customers can provide input regarding the RE resources and terms of the Service Agreement.
BUNDLED RECs MANAGEMENT	Retired on behalf of the customer. The customer may also join Western Renewable Energy Generation Information System at their expense and the RECs will be transferred to be retired.
CUSTOMER FACILITY FLEXIBILITY	Not explicit in the filing; expectation is the contract could move between meters in the service territory.
CONTRACT TIME COMMITMENT	15-20 years.
CUSTOMER LIMITATIONS/ ELIGIBILITY	Commercial, non-residential meters; includes most commercial customers taking electric service on Schedules: 24, 25, 26, 31, 40, 43, 46, and 49. Customers must have a minimum aggregated load of 10,000,000 kWh per year or be a municipal, county, state or federal institution.

WASHINGTON — PUGET SOUND ENERGY

AGGREGATION OF CUSTOMER FACILITY DEMAND	Customers select which service addresses (one to all) to commit to the rider.
IMPACT ON NET-METERING (ONSITE RESOURCES)	Not explicit in the filing.
RE FACILITY LIMITATIONS/ ELIGIBILITY	Resources can be provided by IPPs or be PSE-owned. RE is delivered to PSE balancing authority area; no geographic limitation explicitly set.
COMMERCIAL RISK MANAGEMENT	If RE is insufficient, PSE will work with customer to source and retire RECs from an alternative source, with costs limited to that expected under Schedule 139. If RE is inadequate, PSE may terminate the contract with customer, with no liability to customer or PSE.
PUC PROCESS	Approved September 28, 2016.
STATUS/ RE DEALS SIGNED	Open season for both developers and customers, Fall 2016.
DOCKET INFORMATION	Docket UE-160977

GLOSSARY OF TERMS

Demand Charge	Daily or monthly charges large electricity customers pay for their peak demand in kilowatts from the grid. This is a measure of the capacity they require from the grid in a time period.
DVP	Dominion Virginia Power.
Fuel Clause Charge	Or 'fuel clause adjustment' is the per kWh charge Xcel customers are billed to recover the cost of the generation resources required to supply all customers with electricity.
GS	General service.
IOU	Investor-owned utility.
IPP	Independent power producer, a company that generates and sells power.
Net Metering	A billing mechanism that credits customers supplying surplus solar or other renewable energy power to the public grid.
NGR Tariff/Rate	Name given to NV Energy's green tariff and rider rate.
OARS	Otherwise applicable rate schedule for customers served by NV Energy.
OPT Tariff	Duke "Optional Power Service, Time of Use" tariff structure.
PJM	Pennsylvania-New Jersey-Maryland Interconnection, regional transmission organization (RTO) that coordinates the wholesale electricity in parts of 13 Mid-Atlantic and Midwestern states and DC.
PPA	Power purchase agreement.
PUC	State public utility commission which regulates the electric utilities in a given state.
PURPA	The Public Utility Regulatory Policies Act is a federal law that requires utilities to purchase renewable energy produced by certain qualifying facilities (QFs), such as wind, solar, geothermal and small hydroelectric resources; avoided cost (the cost a utility avoids as a result of the QF) forms the basis for determining QF purchase pricing.
RE	Renewable energy.
REC	Renewable energy certificate attributed to renewable generation under state RPS requirements.
REPSA	Renewable Energy Purchase and Sales Agreement.
Rider	Additional rate applied to an electricity tariff.
RMP	Rocky Mountain Power.
RPS	Renewable Portfolio Standard, for example, state-law requirements as to the proportion of energy sold by a regulated utility that must come from specified types of RE generation.
SB	Senate bill.
Sleeved PPA	Customer directly negotiates with a renewable energy generator, then contracts through utility.
Subscriber Products	Utility has procured renewable energy, then sells portions to customers.
Tariff	Electricity pricing, or price structure, charged to customers.
Tranche	A tranche refers to a specific set of resources and customer terms offered.

ENDNOTES

1. Tawney, Letha. 2014. "Above and Beyond: Green Tariff Design for Traditional Utilities." Working Paper. World Resources Institute, Washington, DC. Available online at: wri.org/publication/green-tariff-design

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World Resources Institute is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity and human well-being.

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