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# EMERGING GREEN TARIFFS IN U.S. REGULATED ELECTRICITY MARKETS

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LETHA TAWNEY, JOSHUA N. RYOR

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## INTRODUCTION

Electricity customers—from residential to large industrial—want to go above and beyond the amount of renewable energy currently offered through the electricity grid. Apart from environmental concerns and reputational advantages, greater use of renewable energy might allow them to reduce their electricity bills and protect themselves against volatile fossil fuel-based power prices. The [Corporate Renewable Energy Buyers' Principles](#), representing 12.4 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 Certifications (RECs) that allow them to claim credibly that they are using green power—they also want access to the long-term, fixed-price structure of renewable energy.

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 provided only RECs at an additional cost. Because they offer only “unbundled” RECs, separate from energy, these programs do not usually provide a fixed cost of energy as protection against volatile fossil fuel prices. Green tariffs, or riders, are an emerging option in markets where there is no functional retail electricity choice to access fixed price renewable energy. These programs, offered by the local utilities and approved by the state public utility commissions (PUCs), allow eligible customers to buy both the energy from a renewable energy project and the RECs. Green tariffs cater to customers’ preference for a more direct financial connection to nearby renewable energy projects. They 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 what buyers are able to access in competitive markets or through third-party-financed “behind-the-meter” renewable energy services. Green tariffs may also prove to provide greater flexibility and lower

transaction costs, 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...”<sup>1</sup> Utilities and regulators must also protect non-green tariff customers from unfairly shouldering costs arising from implementation of the green tariff. However, there might be some costs that can justifiably be shared by all customers if they lead to system-wide benefits (for example, reduced congestion) or positive externalities (for example, reduced emissions). This depends on the local circumstances.

The following table is a compilation of several 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. The table excludes green pricing programs that rely on

RECs but have no energy component. It also excludes utility programs that can be classified as community choice aggregation (loosely defined as tariffs where multiple customers are virtually net-metered against a share of a local renewable energy project). California’s [SB 43](#)—Green Tariff Shared Renewables Program—is open to commercial customers, but caps any individual customer at 2MW of demand. This size limitation has led to its exclusion from this table because all the other tariffs listed allow individual customer demand above 2MW. However, lessons applicable to large energy customers might perhaps be learned from this program and community choice aggregation in general.

The design considerations listed above, and articulated in the Buyers’ Principles, helped to 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 list is regularly updated, but for complete and up-to-date details of each green tariff, see the appropriate docket or filing number or contact the offering utility.

Utility — State	Puget Sound Energy — Washington (Planned for Spring 2015)	Rocky Mountain Power — Utah	NV Energy — Nevada	Duke Energy — North Carolina	Dominion Power — Virginia
<b>TARIFF NAME</b>	N/A	Service From Renewable Energy Facilities — Schedule 32	GreenEnergy Rider — Schedule NGR	Green Source Rider — Rider GS	Renewable Energy Supply Service — Schedule RG
<b>TARIFF TYPE</b>	New tariff	New tariff	Rider	Rider	Rider
<b>PILOT SIZE/ PERIOD</b>	Not defined yet, unknown whether a limit will be set  First project will be ~40,000 MWh per year	Capped at 300 MW total peak delivered to all customers  PUC can increase without returning to the legislature	Capped at 250,000 MWh although NV Energy can choose not to count special contracts against the total	Capped at 1,000,000 MWh or three-year enrollment period, whichever occurs first	Capped at 240,000 MWh, 100 customers, or three-year enrollment period, whichever occurs first

Utility — State	Puget Sound Energy — Washington (Planned for Spring 2015)	Rocky Mountain Power — Utah	NV Energy — Nevada	Duke Energy — North Carolina	Dominion Power — Virginia
<b>TARIFF/ CONTRACT STRUCTURE</b>	<p>Utility signs fixed price, 15-year contract with RE generators</p> <p>Utility creates tariff for service agreement with known energy costs for RE resources</p>	<p>RE facility is selected by the customer, not RMP</p> <p>Two contracts: 1) between RMP and the customer and 2) between RMP and the RE facility</p> <p>Same pricing and duration for both contracts</p> <p>RMP takes ownership of the electricity from RE facility</p>	<p>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)</p>	<p>Customer makes request and commitment for a certain amount of RE</p> <p>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</p> <p>If supplier fails to deliver, Duke will attempt to find a replacement</p>	<p>Customer can request a specific RE facility/resource and RE purchase size</p> <p>Dominion negotiates and enters into a Renewable Energy Purchase and Sales Agreement (REPSA) with the generator</p> <p>Second contract between Dominion and the customer assigns costs and risks to the customer</p>
<b>CUSTOMER COST STRUCTURE</b>	<p>Energy component in standard schedule is replaced by the RE contract with the utility, but other tariff elements and rates (for example, demand charges) remain the same</p> <p>Declining penalty for early exit</p>	<p>RE energy is charged at the price negotiated between the customer and the developer of the RE facility; distribution and generation balancing services priced at rates specific to this tariff and supplemental energy and capacity priced at rates from the otherwise applicable tariff for the customer</p> <p>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</p>	<p>Standard "otherwise applicable rate schedules" apply plus the full cost of the specific facility in kWh (the Renewable Resource Rate (RRR))</p> <p>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 rate" (recalculated quarterly)</p> <p>If the RRR is less than the NGR rate, then the NGR rate applies to the special contract customers</p>	<p>Standard general service tariff and all riders apply plus the total cost of the PPA and RECs (Rider GS) determined on an hourly basis</p> <p>Customer receives bill credit for "all in" avoided capacity and energy costs for the RE produced over the month to offset the premium</p> <p>Early termination fee equal to the net present value of the remaining PPA cost</p>	<p>Customer purchase price is the REPSA price minus the energy component of Dominion's General Service (GS) tariff rate; the rest of GS rate charges apply</p> <p>Demand side management costs and all other riders still apply to the customer, except the fuel surcharge rider</p>

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<b>ADMIN. FEE</b>	Administrative costs are passed through to the customer because they are included in the tariff rate	Proposed \$150 per month for each delivery point (meter) and \$110 per generator per month, irrespective of the number of delivery points	Cost recovery will be determined in the PUC review of the special contract	\$2,000 application fee ..... \$500 fee per meter, plus 0.02 cents per kWh surcharge on RE purchased	\$500 per meter per month
<b>VALUE OF RE PRICE CERTAINTY</b>	The customer is shielded from rate increases that apply to the energy component, including power cost adjustments, etc. embedded in the energy component ..... 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, the benefits accrue to the customer in the form of lower rates	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 back-filling RE generation with supplemental and backup service	Unclear in the filing whether the NGR rider can ever be negative and appear as a bill credit against the otherwise applicable rate schedules; indications thus far are that this might not be possible	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	Rider is on top of the GS tariff, but the customer is exempted from the fuel surcharge rider
<b>CUSTOMER RIGHT TO VETO OFFER/ CONTRACT</b>	Customers can choose not to subscribe to the offering, but do not engage in the PPA negotiations	Customers bring the PPA to RMP and lead on the PPA negotiations	Not explicit in the filing, but customers can refuse to enter the special contract with NV Energy	Duke will negotiate with the facility, but customers have the right to review the offer and the estimated bill credit and not go forward	Dominion negotiates with the facility and customers; customers have veto right with no impact on Dominion
<b>BUNDLED RECs MANAGEMENT</b>	Retired on behalf of the customer ..... The customer may also join WREGIS at their expense and the RECs will be transferred	REC contracts are directly between RE facility and the customer	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	Retired by Duke on behalf of the customer using NC-RETS	Retired or transferred to the customer, but not sold on behalf of the customer

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<b>CUSTOMER FACILITY FLEXIBILITY</b>	Movable from meter to meter for customers moving within the service territory (for example, opening and closing stores, offices, etc.)	RE facility can service multiple customers or customer meters; a customer served by multiple RE facilities will pay a monthly fee for each facility	Not defined in filing but designed primarily for large facilities rather than retail meters	Customers do not expect Duke to allow moving contracts between meters	One customer is limited to RE from one RE facility
<b>CONTRACT TIME COMMITMENT</b>	Ten years, with an option to extend for an additional five; provide notice in year seven if they choose to opt for the five- year extension	Negotiated—identical for both contracts	Negotiated but not less than two years	Negotiated—3-15 years	Determined by the REPSA and customer requirements, 10 years suggested
<b>CUSTOMER LIMITATIONS/ ELIGIBILITY</b>	Commercial, non-residential meters on Schedules 24, 25 and 26 eligible; includes most commercial customers  Schedule 24: up to 50 kW  Schedule 25: demand greater than 50 kW up to 350 kW  Schedule 26: demand greater than 350 kW	Only customers otherwise on Schedules 6, 8, or 9  Customers must contract for 2MW or more	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	Non-residential customers, OPT-G, OPT-H, OPT-I tariffs only  New loads of at least 1 MW since July 30, 2012	Non-residential, commercial customers on GS-3 and GS-4 tariffs  Demand greater than 500 kW  Individual purchase of RE from 1,000 – 24,000 MWh per year
<b>AGGREGATION OF CUSTOMER FACILITY DEMAND</b>	Customer selects which meters (one to all) to commit to the new tariff	Aggregation of meters by a single customer is allowed to meet the 2MW minimum, but fees and power produced/used in 15 minute usage blocks are by meter	Not explicit in the filing but limitations are described by meter, so unlikely	Not explicit in the filing but limitations are described by meter, so unlikely	Aggregation is not allowed
<b>IMPACT ON NET-METERING (ONSITE RESOURCES)</b>	Customers can continue to reduce consumption through energy efficiency, and by self-generation and net-metering	Net-metering of electricity purchased from the facility by customers is not allowed	NV Energy is not prohibited from also accepting net-metered energy from customers	No limitations defined in the filing	Customers cannot participate in this tariff and also net-meter

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<b>RE FACILITY LIMITATIONS/ ELIGIBILITY</b>	Projects need to be interconnected with the distribution grid in the service territory  Projects can be IPPs or utility-owned	Limited to facilities in Utah  Can be owned by the customer, the utility, a third party, or a combination	The power can be owned or procured by NV Energy  No geographic limitations seem to be explicitly set	Duke Carolina RE facility or independent RE facility  RE facilities operational on or after 2007  No geographic limitations seem to be explicitly set, but filing and discussions imply North Carolina facilities	RE facilities within the PJM Interconnection
<b>COMMERCIAL RISK MANAGEMENT</b>	If undersubscribed, excess energy will be dispatched into the larger system at state-approved avoided cost (PURPA rate) and the RECs used in the green power pricing program	Customer must prove reasonable credit  Contract with the RE facility terminates if customer defaults	All contract risk falls on the customer  PUC must approve the contract demonstrating benefits to the customer, NV Energy, and non-participating customers	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	All contract risk falls on the customer, including risk or liabilities assigned to Dominion in the REPSA
<b>PUC PROCESS</b>	Not yet proposed to the PUC, in development and expected Spring 2015	Ongoing into 2015, no deadline for PUC decision  Directing legislation, SB 12 was effective May 8, 2012	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	Approved December 19, 2013	Approved December 16, 2013
<b>STATUS/ RE DEALS SIGNED</b>	PPA signed with new IPP project within service territory but construction delayed  MOUs signed with key customers who have indicated interest	MOUs signed, pending final PUC decision	Apple Fort Churchill project approved in docket 13-07005	Customers have applied and are in negotiations, but none have signed to date	Dominion reports that the rider has not been used to date
<b>DOCKET INFORMATION</b>	N/A	Docket 14-035-T02, implementing SB 12	Docket 12-11023 (Northern Nevada) and 14-06031 (Southern Nevada)	Docket E-7, Sub 1043	Case PUE-2012-00142

## 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](http://wri.org/publication/green-tariff-design)

## GLOSSARY OF TERMS

<b>GS</b>	General service
<b>IOU</b>	Investor-owned utility
<b>IPP</b>	Independent power producer, a company that generates and sells power
<b>NGR tariff/rate</b>	Name given to NV Energy's green tariff and rider rate
<b>OARS</b>	Otherwise applicable rate schedule for customers served by NV Energy
<b>OPT tariff</b>	Duke "Optional Power Service, Time of Use" tariff structure
<b>PJM</b>	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
<b>PPA</b>	Power purchase agreement
<b>PUC</b>	State public utility commission which regulates the electric utilities in a given state
<b>PURPA</b>	The <a href="#">Public Utility Regulatory Policies Act</a> 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; <a href="#">avoided cost (the cost a utility avoids as a result of the QF) forms the basis for determining QF purchase pricing</a>
<b>RE</b>	Renewable energy
<b>REC</b>	Renewable energy certificate attributed to renewable generation under state RPS requirements
<b>REPSA</b>	Renewable Energy Purchase and Sales Agreement between Dominion and renewable energy generator
<b>Rider</b>	Additional rate applied to an electricity tariff
<b>RMP</b>	Rocky Mountain Power
<b>RPS</b>	Renewable Portfolio Standard, i.e., state-law requirements as to the proportion of energy sold by a regulated utility that must come from specified types of RE generation
<b>SB</b>	Senate bill
<b>Tariff</b>	Electricity pricing, and price structure, charged consumers

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## ABOUT THE AUTHORS

**Letha Tawney** is the Acting Director of the Charge Initiative at WRI.

Contact: [ltawney@wri.org](mailto:ltawney@wri.org)

**Joshua N. Ryor** is a Research Analyst with the Global Energy Program at WRI.

Contact: [jryor@wri.org](mailto:jryor@wri.org)

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10 G STREET NE  
SUITE 800  
WASHINGTON, DC 20002, USA  
+1 (202) 729-7600  
[WWW.WRI.ORG](http://WWW.WRI.ORG)

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