

Rocky Mountain Power
Exhibit RMP__(GWH-3)
Docket No. 16-035-__
Witness: Gary W. Hoogeveen

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Gary W. Hoogeveen
Issue Brief on Emerging Green Tariffs in U.S. Regulated Electricity Markets

June 2016



WORLD
RESOURCES
INSTITUTE



ISSUE BRIEF

UPDATED FEBRUARY 2016

EMERGING GREEN TARIFFS IN U.S. REGULATED ELECTRICITY MARKETS

LETHA TAWNEY, JOSHUA N. RYOR, PRIYA BARUA, BRYN BAKER

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 42 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...”¹ 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.

NEW TARIFFS

MINNESOTA — XCEL ENERGY

TARIFF NAME	Renewable*Connect
TARIFF TYPE	Pilot tariff
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 years

MINNESOTA — XCEL ENERGY

CUSTOMER COST STRUCTURE	<p>Stated kWh price for customers based on</p> <ol style="list-style-type: none"> 1) resource cost, 2) capacity credit, 3) 'neutrality adjustment', and 4) administrative costs <p>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"</p> <p>'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'</p> <p>Administrative costs lower for longer term customers; 'neutrality charge' lower in years 6-10 for 10 year contract customers</p>
ADMIN. 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)
CUSTOMER RIGHT TO VETO OFFER/ CONTRACT	Customers can choose not to subscribe to the offering, but do not have any control over the PPA price or other program costs
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
CONTRACT TIME COMMITMENT	Three options: month to month, 5 years, and 10 years; longer terms have lower prices
CUSTOMER LIMITATIONS/ ELIGIBILITY	<p>Available to all residential, commercial, and industrial customers paying fuel clause charge</p> <p>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</p>
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	<p>Xcel wind and solar resources that have recently been approved by the PUC; Odell Wind Farm and North Star Solar Project</p> <p>Pilot includes facilities already approved in order to offer customers pilot as soon as possible</p> <p>Program expansion may include other suppliers or Xcel Energy-owned assets</p>

MINNESOTA — XCEL ENERGY

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

Projects already approved by PUC and owned by Xcel

Xcel Colorado has proposed adding a similar program in its utility service territory.

DOCKET INFORMATION

Docket E002/M-15-985

PUGET SOUND ENERGY — WASHINGTON (PENDING PROJECT FEASIBILITY)

TARIFF NAME

N/A

TARIFF TYPE

New tariff

PILOT SIZE/ PERIOD

Not defined yet, unknown whether a limit will be set

First project will be ~40,000 MWh per year

TARIFF/ CONTRACT STRUCTURE

Utility signs fixed price, 15-year contract with RE generators

Utility creates tariff for service agreement with known energy costs for RE resources

CUSTOMER COST STRUCTURE

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

Declining penalty for early exit

ADMIN. FEE

Administrative costs are passed through to the customer because they are included in the tariff rate

VALUE OF RE PRICE CERTAINTY

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

CUSTOMER RIGHT TO VETO OFFER/ CONTRACT

Customers can choose not to subscribe to the offering, but do not engage in the PPA negotiations

PUGET SOUND ENERGY — WASHINGTON (PENDING PROJECT FEASIBILITY)

BUNDLED RECs MANAGEMENT	Retired on behalf of the customer The customer may also join WREGIS at their expense and the RECs will be transferred
CUSTOMER FACILITY FLEXIBILITY	Movable from meter to meter for customers moving within the service territory (for example, opening and closing stores, offices, etc.)
CONTRACT TIME COMMITMENT	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
CUSTOMER LIMITATIONS/ ELIGIBILITY	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
AGGREGATION OF CUSTOMER FACILITY DEMAND	Customer selects which meters (one to all) to commit to the new tariff
IMPACT ON NET-METERING (ONSITE RESOURCES)	Customers can continue to reduce consumption through energy efficiency, and by self-generation and net-metering
RE FACILITY LIMITATIONS/ ELIGIBILITY	Projects need to be interconnected with the distribution grid in the service territory Projects can be IPPs or utility-owned
COMMERCIAL RISK MANAGEMENT	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
PUC PROCESS	Not yet proposed to the PUC, in development and expected Spring 2015
STATUS/ RE DEALS SIGNED	PPA signed with new IPP project within service territory but construction delayed MOUs signed with key customers who have indicated interest
DOCKET INFORMATION	N/A

ROCKY MOUNTAIN POWER — UTAH

TARIFF NAME	Service From Renewable Energy Facilities – Schedule 32
TARIFF TYPE	New tariff
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
ADMIN. 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
CUSTOMER RIGHT TO VETO OFFER/ CONTRACT	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

ROCKY MOUNTAIN POWER — UTAH

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 2MW 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 2MW 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

Contract with the RE facility terminates if customer defaults

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.

Look for a forthcoming WRI case study on RMP in the spring of 2015

GREEN RIDERS

DOMINION POWER — VIRGINIA

TARIFF NAME	Renewable Energy Supply Service – Schedule RG
TARIFF TYPE	Rider
PILOT SIZE/ PERIOD	Capped at 240,000 MWh, 100 customers, or three- year enrollment period, whichever occurs first
TARIFF/ CONTRACT STRUCTURE	<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>
CUSTOMER COST STRUCTURE	<p>Customer energy consumption and RE generation is settled on 30 minute interval:</p> <p>All non-energy GS tariff rates and riders still apply except fuel surcharge</p> <p>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</p> <p>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</p>
ADMIN. FEE	\$500 per meter per month
VALUE OF RE PRICE CERTAINTY	<p>Rider is on top of the GS tariff, but the customer is exempted from the fuel surcharge rider</p> <p>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</p>
CUSTOMER RIGHT TO VETO OFFER/ CONTRACT	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
CUSTOMER LIMITATIONS/ ELIGIBILITY	<p>Non-residential, commercial customers on GS-3 and GS-4 tariffs</p> <p>Demand greater than 500 kW</p> <p>Customers contract for an individual purchase of RE between 1,000-24,000 MWh per year</p>
AGGREGATION OF CUSTOMER FACILITY DEMAND	Aggregation is not allowed

DOMINION POWER — VIRGINIA

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

DUKE ENERGY — NORTH CAROLINA

TARIFF NAME	Green Source Rider – Rider GS
TARIFF TYPE	Rider
PILOT SIZE/ PERIOD	Capped at 1,000,000 MWh or three-year enrollment period, whichever occurs first
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
ADMIN. FEE	\$2,000 application fee \$500 fee per meter, plus 0.02 cents per kWh surcharge on RE purchased

DUKE ENERGY — NORTH CAROLINA

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
CUSTOMER RIGHT TO VETO OFFER/ CONTRACT	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	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	Not explicit in the filing but limitations are described by meter, so unlikely
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 No geographic limitations seem to be explicitly set, but filing and discussions imply North Carolina facilities
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 customers entered renewable energy agreements on a confidential basis 2-year pilot program status update filed January 2016 under original docket.
DOCKET INFORMATION	Docket E-7, Sub 1043

NV ENERGY — NEVADA

TARIFF NAME	Green Energy Rider – Schedule NGR
TARIFF TYPE	Rider
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 in kWh (the Renewable Resource Rate (RRR)) 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) If the RRR is less than the NGR rate, then the NGR rate applies to the special contract customers
ADMIN. FEE	Cost recovery will be determined in the PUC review of the special contract
VALUE OF RE PRICE CERTAINTY	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
CUSTOMER RIGHT TO VETO OFFER/ CONTRACT	Not explicit in the filing, but customers can refuse to enter the special contract with NV Energy
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

NV ENERGY — NEVADA

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 approved in Docket 13-07005
Switch station project approved in Docket 15-08005

Renewable Energy Agreements pending approval include Switch and Apple (Docket 15-11025);
Switch (Docket 15-11028); and City of Las Vegas (Docket 15-11026)

DOCKET INFORMATION

Docket 12-11023 (Northern Nevada) and 14-06031 (Southern Nevada)

Look for a forthcoming WRI case study on NV Energy in the spring of 2015

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

GLOSSARY OF TERMS

Capacity Credit	The capacity credit for Renewable*Connect customers reflects the value of the additional capacity driven by participation in the program. The capacity credit is calculated based on the capacity value and is divided by expected kWh output of the resource. Capacity value is the product of the MISO accreditation percentage.
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
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 between Dominion and renewable energy generator
Rider	Additional rate applied to an electricity tariff
RMP	Rocky Mountain Power
RPS	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
SB	Senate bill
Tariff	Electricity pricing, and price structure, charged consumers
Tranche	A tranche refers to a specific set of resources and customer terms offered.

ACKNOWLEDGMENTS

The authors would like to thank the following people for their peer review and valuable feedback: Nicholas Fels of Covington & Burling LLP; Tom Maclean of Puget Sound Energy; Steve Chriss of Walmart Stores, Inc; Peter Freed of Facebook, Inc; Mike Lews, Chad Ambrose and Paul Clements of Rocky Mountain Power; Holly Hinman and Nick Paluck of Xcel Energy; and Alex Perera and Bharath Jairaj of the World Resources Institute.

April Herleikson has made substantial contributions to this table and deserves special recognition.

ABOUT THE AUTHORS

Letha Tawney is the Director of Utility Innovation and the Polsky Chair for Renewable Energy at WRI.

Contact: ltawney@wri.org

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

Contact: jryor@wri.org

Priya Barua is an Associate II with the Global Energy Program at WRI.

Contact: pbarua@wri.org

Bryn Baker is Manager, Renewable Energy, at WWF.

Contact: bryn.baker@wwfus.org

ABOUT WRI

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.

ABOUT WWF

World Wildlife Fund is an organization dedicated to stopping the degradation of the planet's natural environment and building future in which humans live in harmony with nature.

Each World Resources Institute issue brief represents a timely, scholarly treatment of a subject of public concern. WRI takes responsibility for choosing the study topics and guaranteeing its authors and researchers freedom of inquiry. It also solicits and responds to the guidance of advisory panels and expert reviewers.

Unless otherwise stated, however, all the interpretation and findings set forth in WRI publications are those of the authors.



Copyright 2016 World Resources Institute. This work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of the license, visit <http://creativecommons.org/licenses/by/4.0/>



WORLD
RESOURCES
INSTITUTE

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

978-1-56973-804-7