




REBA

Renewable Energy Buyers Alliance



U.S. ELECTRICITY MARKETS: UTILITY GREEN TARIFF UPDATE

JULY 2020

BY CONTRIBUTING AUTHORS: CELINA BONUGLI, WORLD RESOURCES INSTITUTE; NORMA HUTCHINSON, WORLD RESOURCES INSTITUTE; PRIYA BARUA, REBA

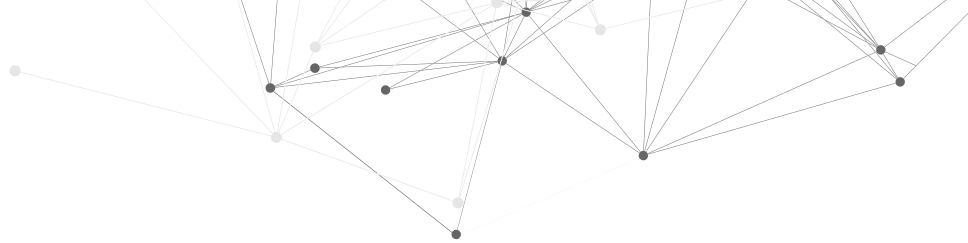


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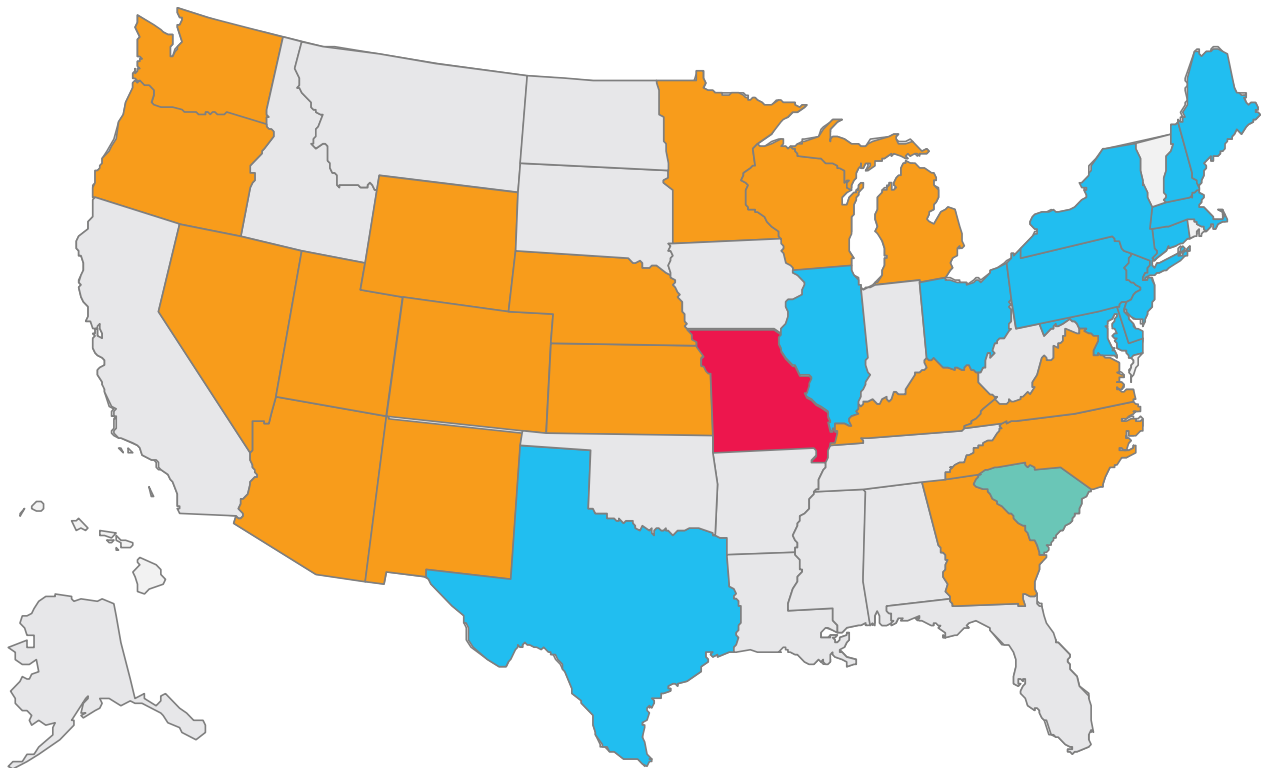
THE WORLD RESOURCES INSTITUTE’S WORK ON GREEN TARIFFS BECAME AN INITIATIVE OF THE RENEWABLE ENERGY BUYERS ALLIANCE (REBA) IN 2019.

GREEN TARIFF PROGRESS

- Since October 2019, 5 programs have been added in AZ, KY, NV, VA and WY – bringing the total programs approved or pending to 36 in 19 states
- Each of these programs are offered by utilities that already have a green tariff program available either in the same service territory or another service territory
- Since the last green tariff publication update, around ½ year ago, 4 existing programs have received regulatory approval – including programs in GA, KY, NM, and VA
- One program received approval to expand the program size available to customers – MI, Consumers Energy – and several other utilities are pursuing approval to expand the capacity offered
- Programs have expanded access to customers – only 4 programs require new load for participation and 5 programs have carve outs or otherwise made exceptions to demand requirements for municipal customers
- 4 of the 36 programs are fully subscribed and 26 remain open for new and existing customer use

FIGURE 1

AS OF JUNE 2020, 36 PROGRAMS ARE APPROVED OR PENDING APPROVAL IN 19 STATES



Utility Renewable Energy (RE) Deals

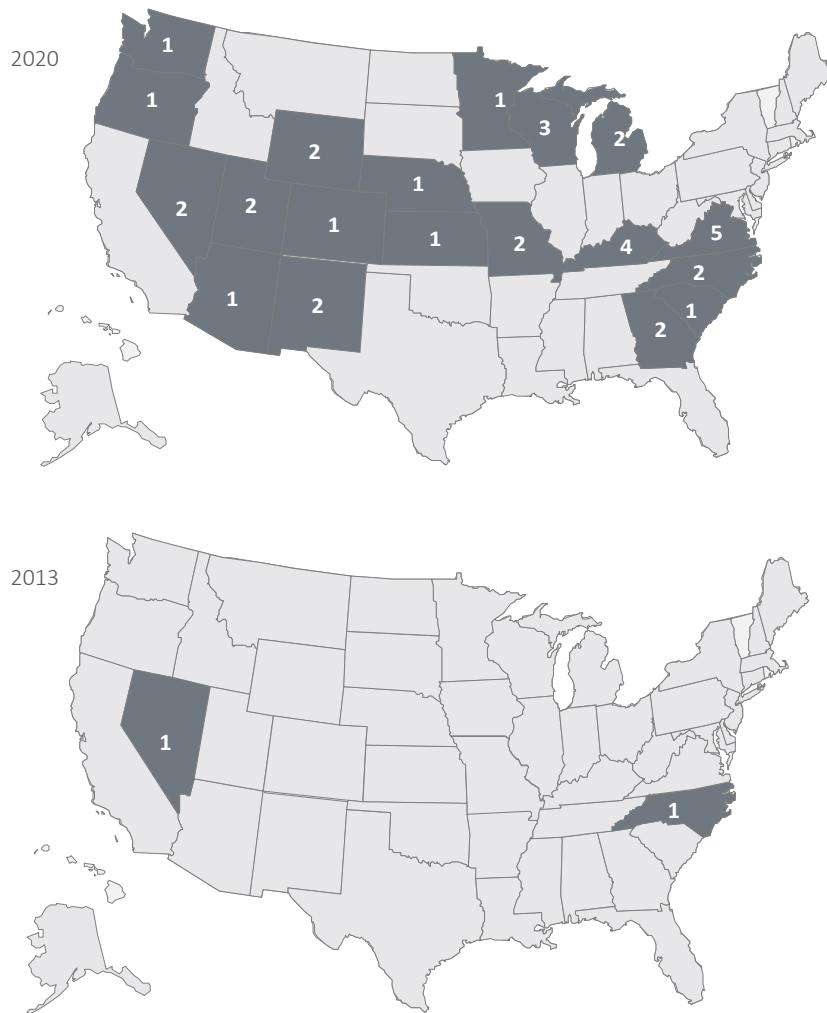
- Green tariff(s) and executed RE deal(s) through tariff
- Green tariff(s) but no deal(s) through tariff to date
- Considering a green tariff (proposal with the PUC)
- One-on-one RE deal(s) between companies and utilities, but no green tariff to date
- Electric retail choice easily available
- No known direct large-scale RE access available

Source: <https://www.wri.org/publication/emerging-green-tariffs-us-regulated-electricity-markets> for REBA

Note: Map shows both new and existing resource green tariff deals

FIGURE 2

GROWTH OF GREEN TARIFF PROGRAMS PER STATE FROM 2013 TO JUNE 2020 (INCLUDES PROPOSED AND APPROVED)

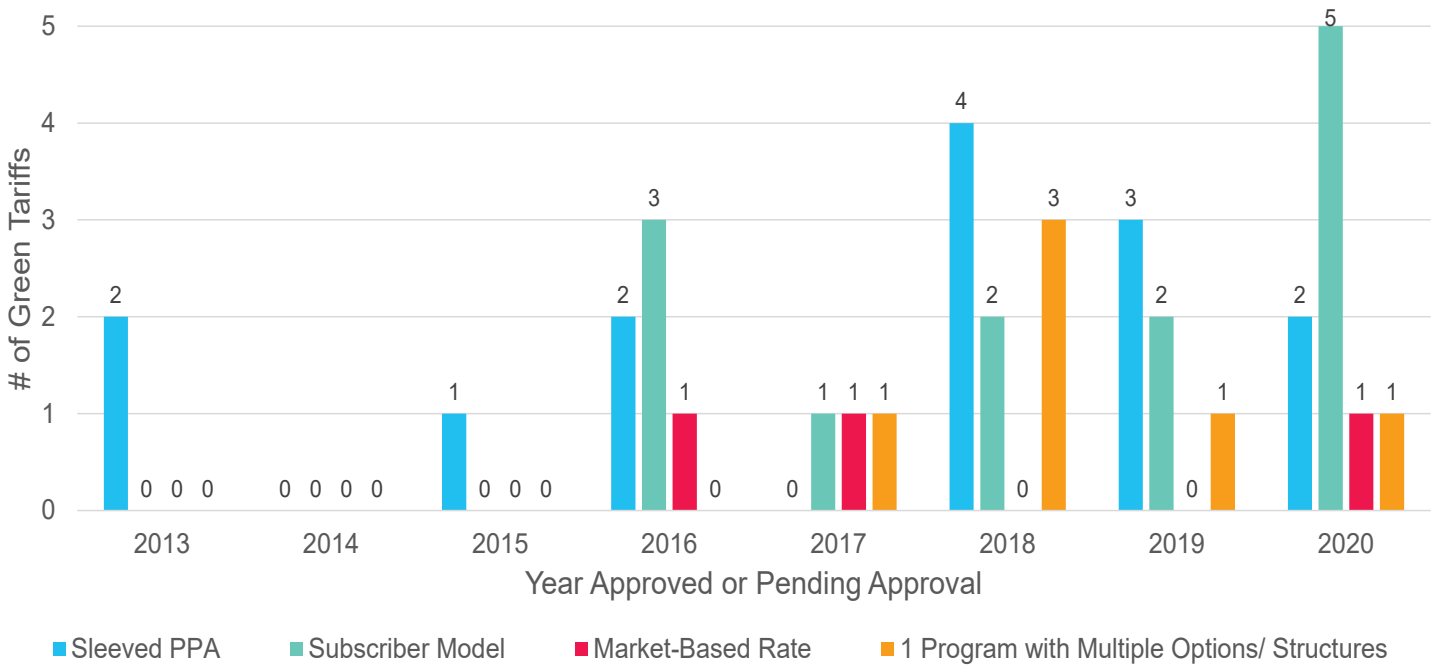


■ Number of green tariff programs proposed and/or approved

Source: <https://www.wri.org/publication/emerging-green-tariffs-us-regulated-electricity-markets> for REBA

Note: Map shows both new and existing resource green tariff deals

GRAPH 1
GREEN TARIFF STRUCTURES CONTINUE TO EVOLVE



Fully Subscribed: Xcel Energy Colorado’s Renewable*Connect, Puget Sound Energy’s Schedule No. 139, Georgia Power’s REDI Program and Evergy Kansas’s Renewables Direct.

Closed to New Customers: Dominion Energy’s Rate Schedule MBR and Duke Energy’s Rider GS.



STYLES OF GREEN TARIFFS OFFERED

Total

Sleeved PPA: 14

Subscribed model: 13

Market-based rate: 3

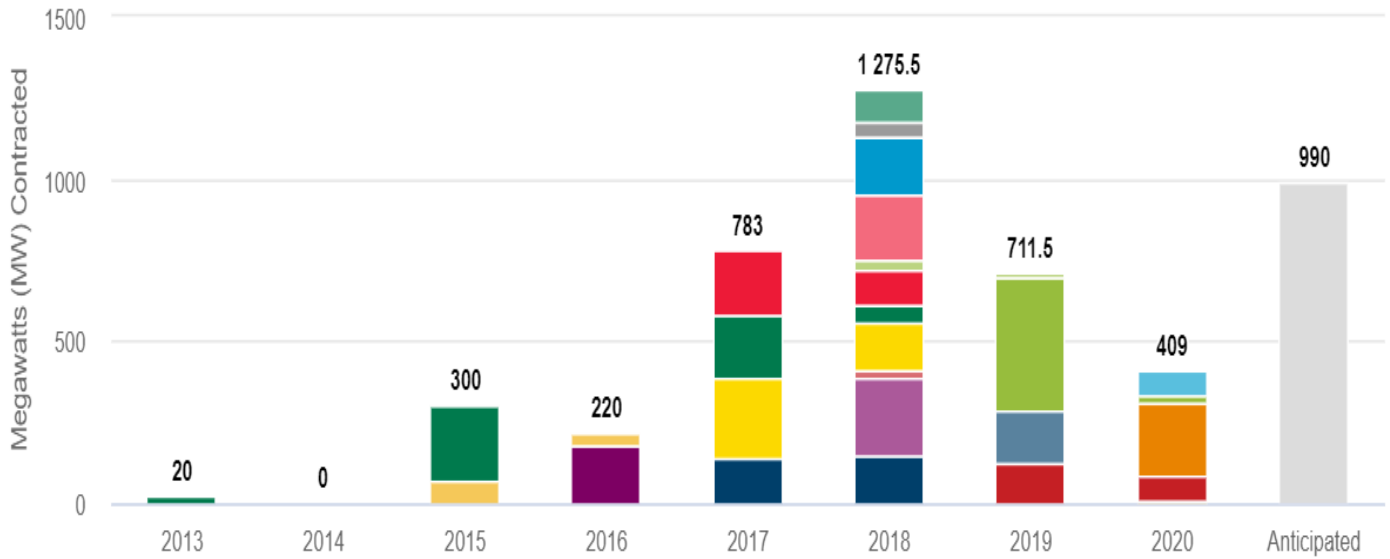
Multiple styles/ combination: 6

Trends

- Sleeved PPA, the original style, remains the most common green tariff structure
- The subscriber model has increasingly become popular
- Most of the green tariff programs that offer multiple styles include a subscriber model

GRAPH 2

GREEN TARIFFS ARE DELIVERING RENEWABLE ENERGY



19 Programs Have Been Used to Bring 3.719 GW of New RE on to the Grid





TRANSLATING GREEN TARIFF STYLES

Sleeved PPA

- 8 programs have been utilized to contract 1,760 MW
- Utilized by ~ 16 customers some with several deals (some are anonymous)
- These programs were primarily used by corporate customers; municipal & other customers only utilized 2/8 programs

Subscriber Model

- 6 programs have been utilized to contract 1,254.5 MW
- Utilized by ~125 customers (both corporates and municipal governments)

Market-Based Rate

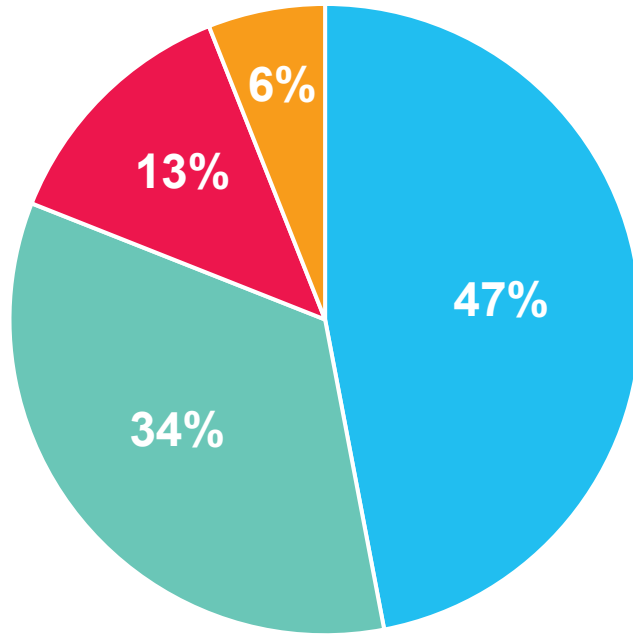
- 2 programs have been utilized to contract 490 MW
- Utilized by 2 corporate customers with several deals

Multiple Styles / Combination

- 3 programs have been utilized to contract 214.5 MW
- ~95% of the MW procured through programs with multiple options have been contracted through the subscriber option
- Utilized by ~23 customers (both corporates, municipal governments and others)
- component
- Programs that offer a combination of styles may continue to be offered – caters to a range of customer needs

GRAPH 3

TRANSLATING GREEN TARIFF STYLE TO MW



- 1 Program with multiple options/structures
- Market Based Rate
- Subscriber model
- Sleeved PPA

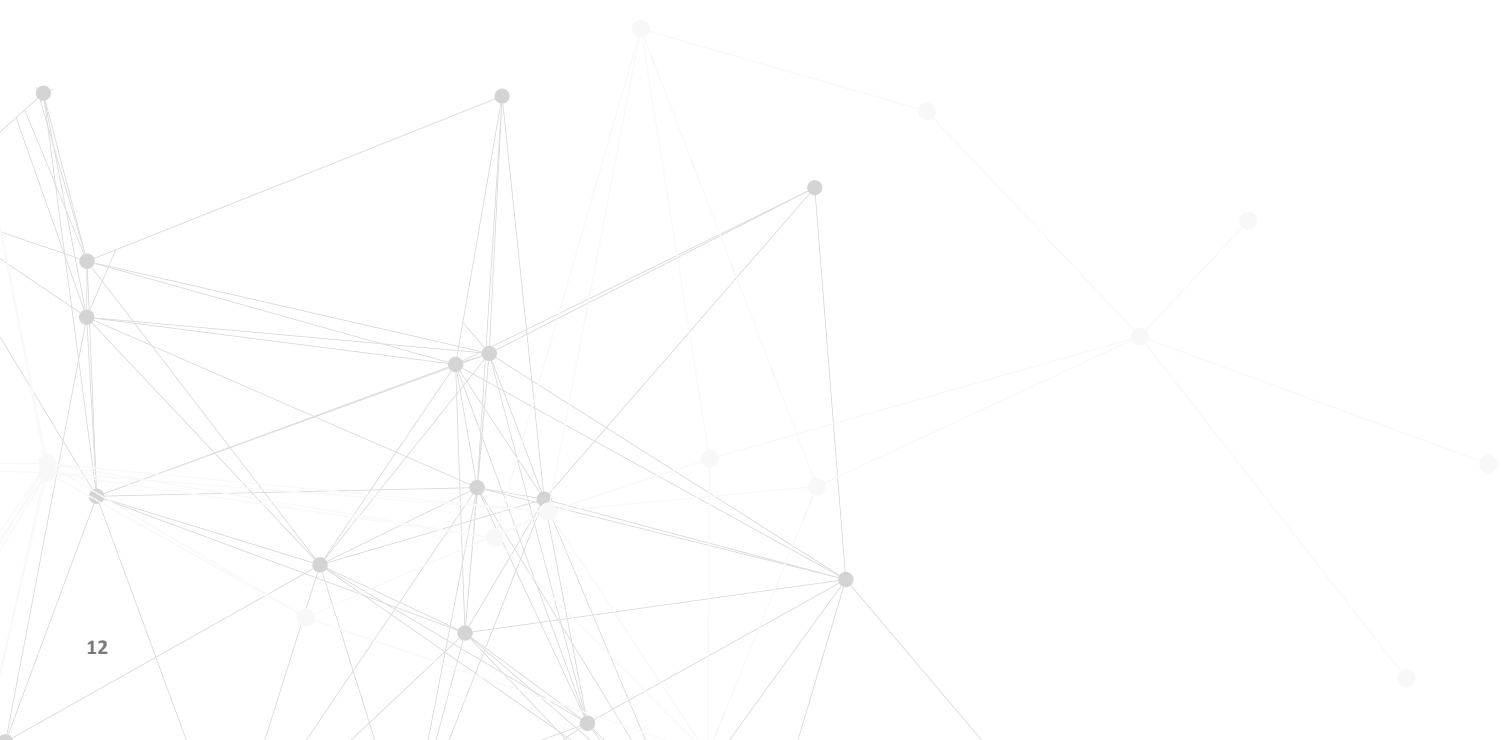


01

NEW GREEN TARIFF
PROGRAMS

ARIZONA – SALT RIVER PROJECT (SRP)*	
Tariff Name	Sustainable Energy Services Pilot Rider
Tariff Type	Rider; Subscriber Product
Size/Period	No limitations were defined in the filing.
Cost Structure	Customer’s standard service rate, plus a fixed price per metered kWh attributed to a customer’s reserved capacity.
Customer Eligibility	Current customers served under specific rates for larger loads: E-13, E-14, E-15, E-21, E-22, E-23, E-26, E-27, E-29, E-32, E-36, E-47, E-48, E-61, E-63, E-65, E-66 or E-67.
Status	The program is open for enrollment now – program became available starting May 2019.
Docket	2019 Standard Electric Price Plans

*Details pending utility confirmation.



KENTUCKY – EAST KENTUCKY POWER COOPERATIVE (EKPC)	
Tariff Name	Renewable Energy Program
Tariff Type	Rider; Sleeved PPA
Pilot Size/Period	Five-year pilot which concludes December 31, 2024
Tariff/Contract Structure	<p>Program grants customers two types of access to RE – under Option B Customers may contract with their local electric distribution cooperative retail member and its wholesale power provider, EKPC, to purchase energy and RECs from the RE generator.</p> <p>Contract must be for 1 MW at a minimum and is capped at the customer’s average annual consumption over the previous 3 years.</p>
Customer Cost Structure	<p>Standard wholesale power rate, with an increased cost for the contracted and delivered RE for each agreement, + a total avoided cost and capacity credit when applicable.</p> <p>Credit = avoided cost of the base fuel and the fuel adjustment clause per MWh of RE delivered and capacity credits plus the avoided cost of the variable environmental surcharge equal to the delivered RE monthly.</p> <p>The credit will be limited to the lesser of the total credit or the PJM Localized Marginal Cost.</p>
PUC Process	Approved March 25, 2020.
Customer Eligibility	Customer of an electric distribution cooperative served by EKPC.
Docket	Docket No. 2019-00378

NEVADA – NV ENERGY*	
Tariff Name	Large Customer Market Price Energy Schedule No. LCMPE
Tariff Type	Tariff; Market-Based Rate
Size/Period	No limitations were defined in the filing.
Tariff/Contract Structure	<p>Customer enters into an Energy Supply Agreement with NV Energy, which must be approved by the Commission.</p> <p>Customer may choose where the energy is sourced from, which influences the associated energy charge:</p> <ul style="list-style-type: none"> • Market on behalf of the customer; or • NV Energy’s generation and purchased power..
Cost Structure	<p>Standard Base Tariff General Rate applies including all applicable charges (e.g. demand, facilities, basic service charge, Universal Energy Charge, Franchise Fees, Taxes and Mill Assessment, public program costs) minus the cost of generation capacity and energy supply, plus an energy charge as specified in the Energy Supply Contract between NV Energy and the customer.</p> <p>Customers will be exempt from the Net-BTRE, equal to the base tariff energy rate minus the cost of out-of-the-money long-term RE contracts, and deferred energy accounting adjustment DEAA rates/charges.</p>
PUC Process	Approved May 7, 2020.
Customer Eligibility	<p>Non-residential service customers with an average annual hourly load of 10 MW or more.</p> <p>Customer cannot be a fully bundled retail customer, nor approved by the Commission to purchase renewable energy capacity and ancillary services from a provider or new electric resource under NRS Chapter 704B.</p>
Status	<p>Open for enrollment.</p> <p>Google has applied for an Energy Supply Agreement to serve its Henderson Data Center.</p>
Docket	Docket No. 19-12016

*Details pending utility confirmation.

VIRGINIA – KENTUCKY UTILITIES COMPANY (KU)	
Tariff Name	Green Tariff
Tariff Type	Rider; Sleeved PPA
Size/Period	No limitations were defined in the filing.
Cost Structure	Customer pays standard firm service rate, plus applicable riders and adjustment clauses, in addition to the charges and energy credits set in written agreement. Program costs reflect the RE resource and include transmission costs to deliver the energy.
Customer Eligibility	Customers must be taking service under standard rate schedules TODP and RTS, and have a minimum monthly billing load of 10 MVA (or MW).
RE Facility Limitations	No limitations defined. Resources must be located in Kentucky, Indiana, Tennessee, Ohio, West Virginia, Virginia, Missouri, or Illinois.
PUC Process	Approved April 6, 2020.
Status	Customer may participate by making a request to LG&E-KU's Account Representative, Call Center, Business Office, or through LG&E-KU's website enrollment form.
Docket	Docket PUR-2019-00060

WYOMING – BLACK HILLS ENERGY*	
Tariff Name	Renewable Ready Service
Tariff Type	Tariff; Subscriber Product
Size/Period	32.5 MWs
Cost Structure	<p>Standard retail rate applies plus Renewable Ready charge and credit.</p> <p>Renewable Ready Charge equals Renewable Ready Charge Rate x Subscriber’s Monthly Renewable Ready. The Charge Rate varies:</p> <ul style="list-style-type: none"> • Five-year to nine-year subscriptions: \$0.028 per kWh • Ten-year to fourteen-year subscriptions: \$0.026 per kWh • Fifteen-year to twenty-five-year subscriptions: \$0.024 per kWh <p>Renewable Ready Credit equals the base FPP costs plus the SD FPPA</p> <p>Early Termination Fees will apply if the subscriber leaves Black Hills Energy service territory.</p>
PUC Process	Approved June 1, 2020.
Customer Eligibility	Customers with usage of 300,000 kWh or more per year and governmental accounts.
Status	Renewable Ready Subscriptions shall be offered for a four week period (“initial Subscription Period”) following approval of this tariff. If customers subscribe to more renewable energy than is available, subscriptions will be limited to a pro-rate share of the forecasted annual Renewable Ready Energy with preference given to the longest term contracts.
Docket	Docket No. 15337

*Details pending utility confirmation.



02 MODIFIED GREEN TARIFF PROGRAMS

FIVE UPDATED AND/OR APPROVED PROGRAMS

Approved Programs

- Georgia, Georgia Power, CRSP – Approved 3/12/2020
- Kentucky, Duke Energy, Green Source Advantage, Rider GSA – Approved 4/27/2020
- New Mexico, Public Utility of New Mexico, Solar Direct – Approved 3/25/2020
- Virginia, Dominion Energy, Large General Service Market-Based Rate – 1/14/2020

Expanded Capacity & RE Sources

- Michigan, Consumers Energy, LC-REP – Capacity expanded to 400,000 MWh annually, RE facilities now include solar in addition to wind.

Customer Cost Structure Updates

- Georgia, Georgia Power, CRSP – Cost includes a customer's general retail service, plus an additional CRSP program charge.

GEORGIA – GEORGIA POWER CRSP PROGRAM APPROVED & UPDATED TARIFF DETAILS

Tariff Name	Customer Renewable Supply Procurement (CRSP)
Tariff Type	Rider; Subscriber Product
Size/Period	1,000 MW–600 MW available for existing customers and up to 400 MW for new or existing customers with new load additions.
Cost Structure	<p>Standard general retail service + CRSP program charge - hourly credit.</p> <p>Program charge = CRSP Portfolio Price per customers monthly share.</p> <p>CRSP Portfolio Price, on a fixed price per kWh basis:</p> <ul style="list-style-type: none"> • Levelized supply cost based on the portfolio of RE facilities • Levelized additional sum of 8.5% of the net present value of the net benefits realized from the CRSP Portfolio • Administrative costs
Customer Eligibility	<p>Existing customers with annual peak demand of 3 MW or greater.</p> <p>New or existing customers with new load additions of 125 MW or greater.</p>
Contract Time Commitment	Minimum 10 years. Can request up to 30 years in 5-year increments.
PUC Process	Approved March 12, 2020
Status	<p>Two notice of interest (NOI) periods:</p> <ul style="list-style-type: none"> • The first NOI opened April 22, 2020 and closes July 31, 2020 for new load customers and December 4, 2020 for existing customers. • The second NOI period will open in Q2 of 2021
Docket	Docket 42958

KENTUCKY – DUKE ENERGY GSA APPROVED	
Tariff Name	Green Source Advantage, Rider GSA
Tariff Type	Rider; Sleeved PPA
Size/Period	No defined limitations in the filing on the time period or the size of the green tariff.
Tariff/Contract Structure	Customer and Duke Energy enter into GSA Service Agreement outlining service terms and the rates and charges for the contract term per the GSA Program. The customer is responsible for paying the GSA Product Charge which is included on the utility bill and passed onto the facility owner and in return, the customer receives the GSA Bill Credit.
Cost Structure	<p>Standard Base Tariff General Rate applies including all applicable charges (e.g. demand, facilities, basic service charge, Universal Energy Charge, Franchise Fees, Taxes and Mill Assessment, public program costs) minus the cost of generation capacity and energy supply, plus an energy charge as specified in the Energy Supply Contract between NV Energy and the customer.</p> <p>Customers will be exempt from the Net-BTRE, equal to the base tariff energy rate minus the cost of out-of-the-money long-term RE contracts, and deferred energy accounting adjustment DEAA rates/charges.</p>
PUC Process	Approved April 27, 2020
Contract Time Commitment	Maximum 20 years
Customer Eligibility	<p>New or existing nonresidential customers receiving service on another rate schedule, excluding service under outdoor lighting schedules, with:</p> <ul style="list-style-type: none"> • minimum annual peak demand of 1 MW; or • multiple service locations that, in aggregate, are equal to or greater than 5 MW.
Status	Customer must submit an application identifying the annual amount of renewable capacity to be developed on behalf of customer and contract term.
Docket	Docket 2019-00271

MICHIGAN – CONSUMERS ENERGY LC-REP CAPACITY & RE SOURCES EXPANDED

Tariff Name	Large Customer Renewable Energy Pilot Program (LC-REP)
Tariff Type	Pilot Rider; Subscriber Product and/or Market-Based Rate
Size/Period	Open to customer enrollment for three years based on first in, first served.
Tariff/Contract Structure	Under Option A: Consumers Energy Provided Renewable Energy, customers can elect a subscription level between 20% and 100% of their load, in 5% increments. Limited to 400,000 MWh annually.
Cost Structure	<p>Option A, customer pays:</p> <ul style="list-style-type: none"> • Standard full-service tariff rate • Renewable energy subscription charge: flat fee, based on the levelized cost of service of the designated renewable energy facilities (the fee will be prorated if future resources are added to the program with a lower rate); and • Energy and capacity credit (monthly dollar per-kWh) based on the value of the RE and capacity settled in MISO <p>Option B, customer pays:</p> <ul style="list-style-type: none"> • Either the standard full-service tariff rate or • The Market Index Provision in place of the standard full-service rate (optional); and • Administrative Charge (optional).
Renewable Energy Facility Limitations	<p>Participants choose the amount of utility involvement::</p> <ul style="list-style-type: none"> • Option A: Utility-owned wind or solar facility—limited to 400,000 MWh per year. • Option B: Wind or solar facility must be generated from a 100% certified renewable energy source physically located within MISO. No minimum or maximum generation requirement. <p>Facilities must be in commercial operation after December 2017.</p>
Customer Eligibility	<p>Option A: Full service electric customers with an annual maximum demand of at least 1 MW.</p> <p>Option B: Full service electric customers, with new or expanding Primary Voltage load not previously served by the company. 2,400 volts or higher is considered incremental. Aggregated maximum demand must be in excess of 3 MW with a minimum of a 70% load factor.</p>
Status	Interested customers must enroll by October 18, 2020.
Docket	Case No. U-18393, No. U-18351 & U-20649

NEW MEXICO – PNM SOLAR DIRECT APPROVED	
Tariff Name	Voluntary Solar Renewable Energy Program—Solar Direct for Governmental and Large Commercial Customers, Rider No. 50
Tariff Type	Rider; Subscriber Product
Size/Period	50 MW (30 MW reserved for governmental customers)
Contract Time Commitment	15-year minimum
Tariff/Contract Structure	<p>Customer and PNM enters into a Service Agreement, which establishes the subscription period, the rate, early termination fee and other relevant terms and conditions related to the Voluntary Renewable Energy Program.</p> <p>PNM makes necessary renewable procurement, which can be either owned or contracted through a PPA.</p>
PUC Process	Approved March 25, 2020
Customer Eligibility	<p>Governmental customers receiving service from PNM, and customers receiving retail rate from PNM on schedules 3B, 3C, 3D, 3E, 4B, 5B, 15B, 30B, and 35B with a monthly average Aggregated Billable Demand of at least 2,500 kW.</p> <p>Customer's subscription may not exceed 60% of the capacity of the solar facility.</p>
Status	For the current 50 MW resource, customers have already submitted a notice of interest. Service Agreements will be executed nine months before the start of operation, currently scheduled for March 31, 2021.
Docket	Docket 19-00158-UT

VIRGINIA – DOMINION ENERGY SCHEDULE MBR, LARGE GENERAL SERVICE MARKET-BASED RATE APPROVED

Tariff Name	Schedule MBR, Large General Service Market-Based Rate
Tariff Type	Tariff; Market-Based Rate
Size/Period	Capped at 200 MW. 60 days after approval from the Commission, customers can enroll until November 1, 2019 or until cap is reached.
RE Facility Limitations	No limitations defined. Resources must be located in Kentucky, Indiana, Tennessee, Ohio, West Virginia, Virginia, Missouri, or Illinois.
PUC Process	Approved January 14, 2020
Docket	Docket PUE-2015-00108



03

GREEN TARIFFS TO BE
AWARE OF

UPCOMING ENROLLMENT PERIODS

Georgia, Georgia Power, CRSP

- The first notice of interest (NOI) due by July 31, 2020 for new load customers and December 4, 2020 for existing customers. The second NOI period will open in Q2 of 2021.

Virginia, Dominion Energy, Schedule RF

- 5 year enrollment from 3/26/2018

REACHING THE END OF THE PILOT OR CAP

Michigan, Consumers Energy, Large Customer Renewable Energy Pilot Program

- Enrollment occurs June 1 through September 30 each year
- 44 / 400 MW utilized

Michigan, DTE Energy, Large Customer Voluntary Green Pricing Program

- 440/ 455 MW utilized
- However, a 320 MW expansion is anticipated later this year

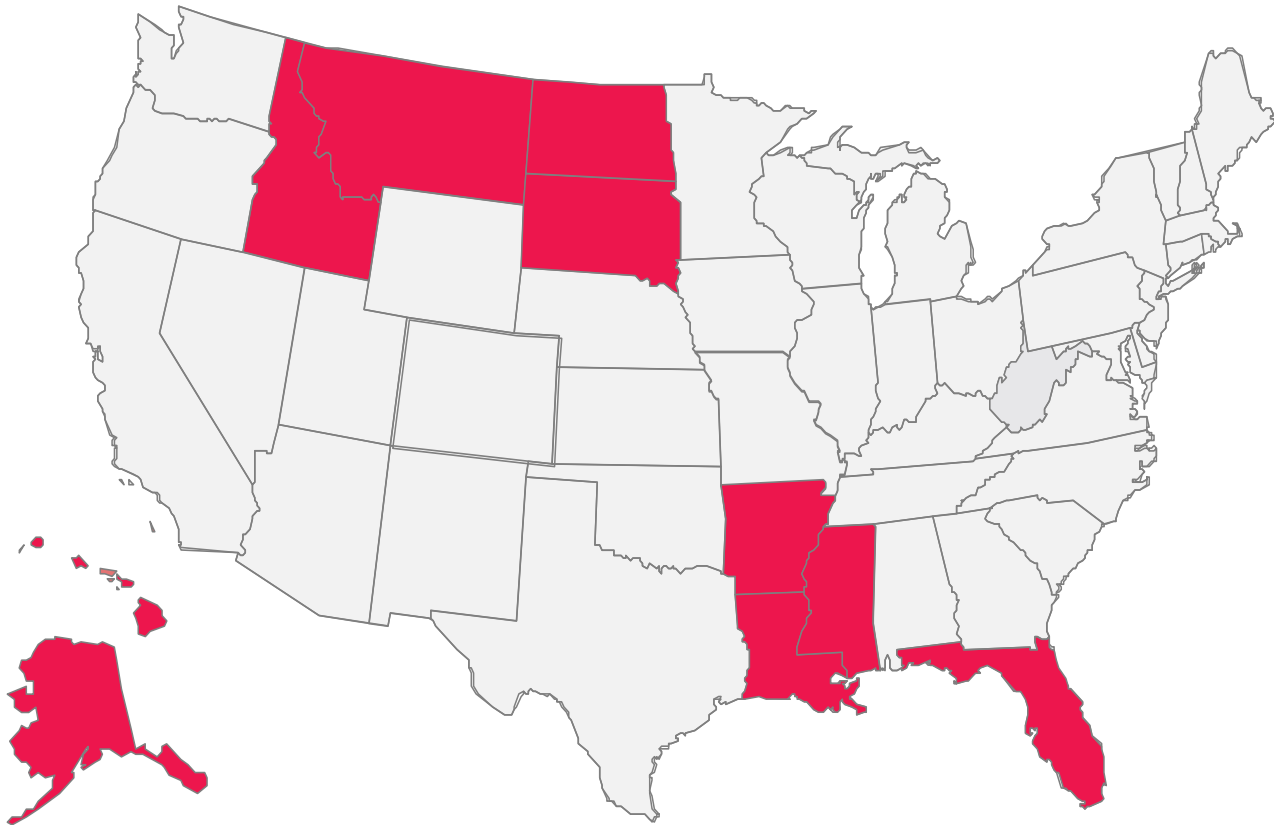
North Carolina, Duke Energy, GSA

- 219 / 250 MW utilized



04 LOOKING TOWARD THE
FUTURE

FIGURE 3
WHERE ARE GREEN TARIFFS STILL REQUIRED?



CONTACT US

Celina Bonugli

Associate, Clean Energy Innovation
Celina.Bonugli@wri.org

Norma Hutchinson

Research Analyst, Energy Program
Norma.Hutchinson@wri.org

Priya Barua

Deputy Director, Market Innovation & Utility Engagement
pbarua@rebuyers.org



Renewable Energy Buyers Alliance

<https://rebuyers.org/>

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