

# Utility Green Tariff Programs: Considerations for Federal Agencies

Webinar  
Golden, Colorado  
May 4, 2017



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**NREL/PR-6A20-68179**

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# **Why Should Federal Agencies Be Interested in Utility Green Tariff Programs?**

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**Federal agencies are required to purchase renewables under the Energy Policy Act of 2005.**

**The federal renewable goal is 7.5% of electric energy in fiscal year 2013 and thereafter.**

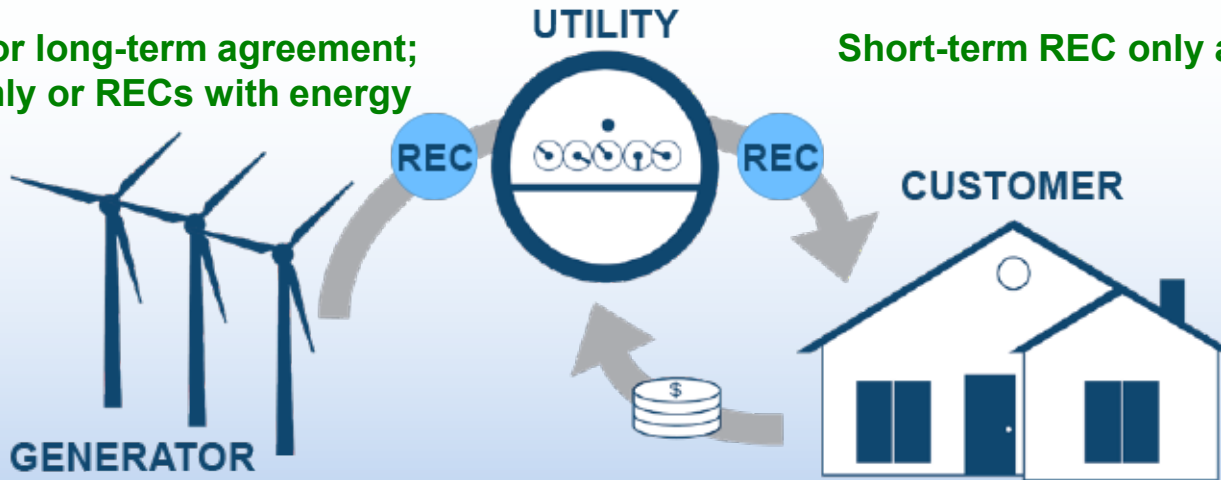
**Green tariff programs are an emerging RE purchase method that could result in federal agency cost savings.**

# What are Utility **Green Pricing** Programs?

## Key components of typical utility **green pricing** program:

- Utility procures renewables on behalf of customer
- Customer commitment time is short (typically monthly)
- Premium in addition to current utility bill (no bill credit)
- Utility may purchase RECs separately from electricity

Short, medium, or long-term agreement;  
could be REC-only or RECs with energy



Short-term REC only agreement

# What are Utility **Green Tariff** Programs?

## Key components of typical utility **green tariff**:

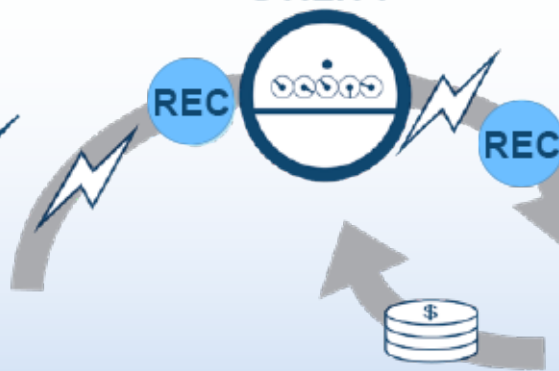
- Customer may have input into RE source
- Customer commitment time is longer (multi-year)
- RE charge on bill, with credit of regular energy charge

Long-term agreement for  
RECs and energy



GENERATOR

UTILITY



Long-term agreement for  
RECs and energy



CUSTOMER

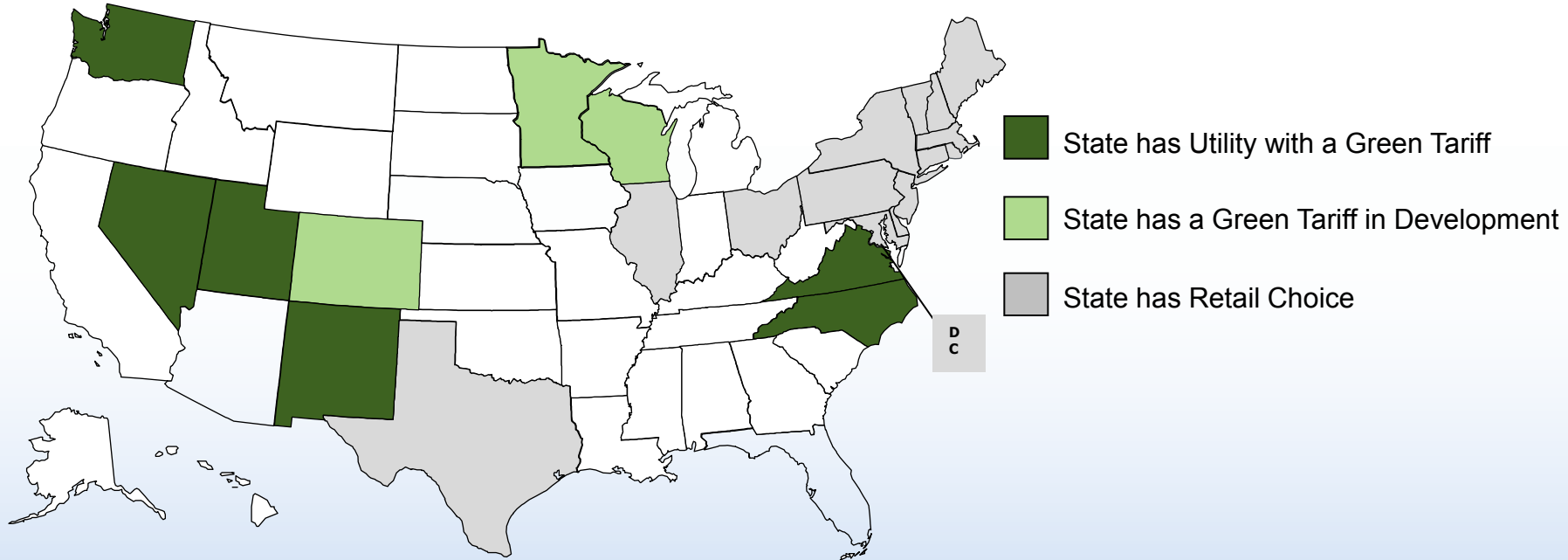
# Utility **Green Pricing** vs. **Green Tariff** Options

**Green tariff products have a longer contract term and potential utility cost savings, while green pricing products involve a premium and shorter contract term.**

<b>Program Characteristics</b>	<b>Green Pricing</b>	<b>Green Tariff</b>
<b>Cost savings potential</b>	No, products average around 1.5 cents/kWh premium	May be cost-competitive, depending on structure and term
<b>Price stability</b>	No, continue to pay utility rate that is subject to change	Possible under certain program structures
<b>Contract length</b>	Shorter contract terms (typically month-to-month)	Longer agreements possible (10-20 years)
<b>Ease of joining</b>	Typically a simple sign-up process	Often limited availability, longer contract is potential barrier
<b>Choice of RE resource</b>	Utility determines	Customer may have input

# Utility Green Tariff Programs are Expanding

- Currently in six states
- In development in at least three other states



Data Source: NREL updates to Tawney, L., J. Ryor, P. Barua, B. Baker. 2016. *Emerging Green Tariffs in U.S. Regulated Electricity Markets*. Washington, DC: World Resources Institute.

## Utility Green Tariffs – Considerations for Potential Customers

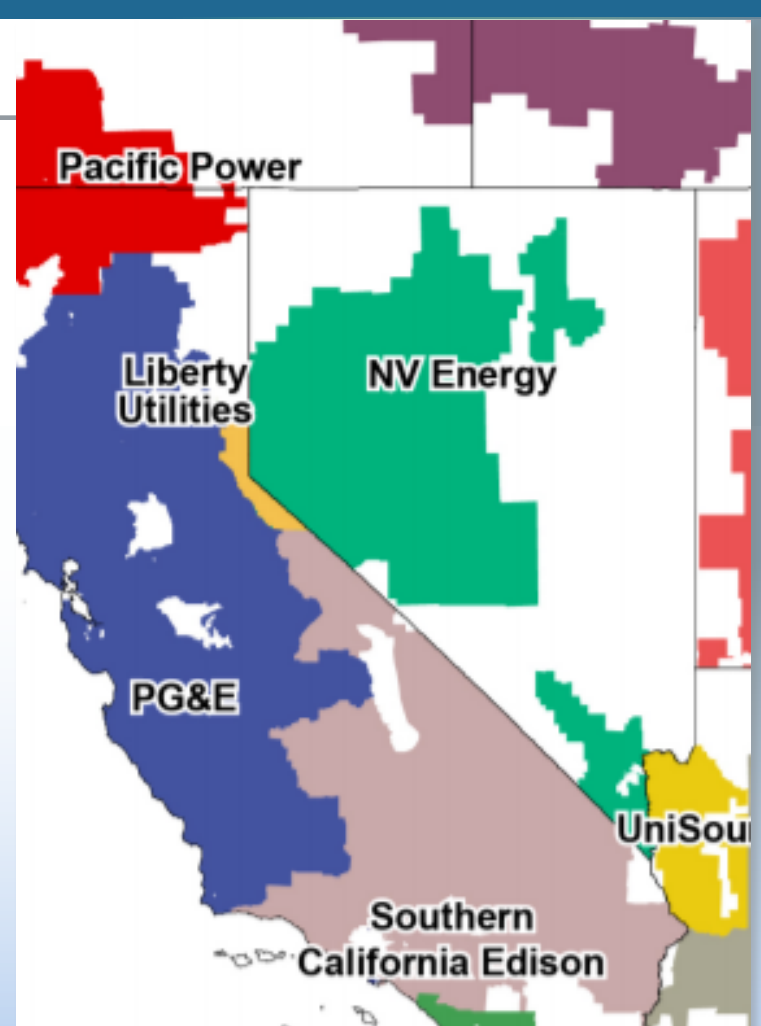
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- **Who can participate?**
- **What are the rate components and net cost (if available)?**
- **What length of contract must be signed?**
- **When must customers enroll?**
- **What are the program limits?**
- **Who owns the RECs?**

# NV Energy

## Existing capacity signed:

- Apple: 20 MW solar and 50 MW solar projects
- Switch: 180 MW solar
- City of Las Vegas: Share of the 100 MW Boulder Solar Power Project





# NV Energy GreenEnergy Rider

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## Who can participate?

- N. Nevada: GS-2 or larger, with 50-500 kW demand or monthly usage >10,000 kWh
- S. Nevada: LGS-1 and larger

## What are the rate components and net cost (if available)

- Pay existing rate schedule
- Pay RE cost
- Credit is negotiated with the utility

Sources: [http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS\\_2010\\_THRU\\_PRESENT/2012-11/21480.pdf](http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2010_THRU_PRESENT/2012-11/21480.pdf) and [http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS\\_2010\\_THRU\\_PRESENT/2014-6/39059.pdf](http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2010_THRU_PRESENT/2014-6/39059.pdf)

# NV Energy GreenEnergy Rider

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## What length of contract must be signed?

- Negotiated with the utility (at least two years)

## When must customers enroll?

- No specific enrollment period

## What are the program limits?

- Annual subscription limit: 250,000 MWh for N. Nevada, 250,000 MWh for S. Nevada, though NV Energy is allowed to exclude special contracts from the cap

## Who owns the RECs?

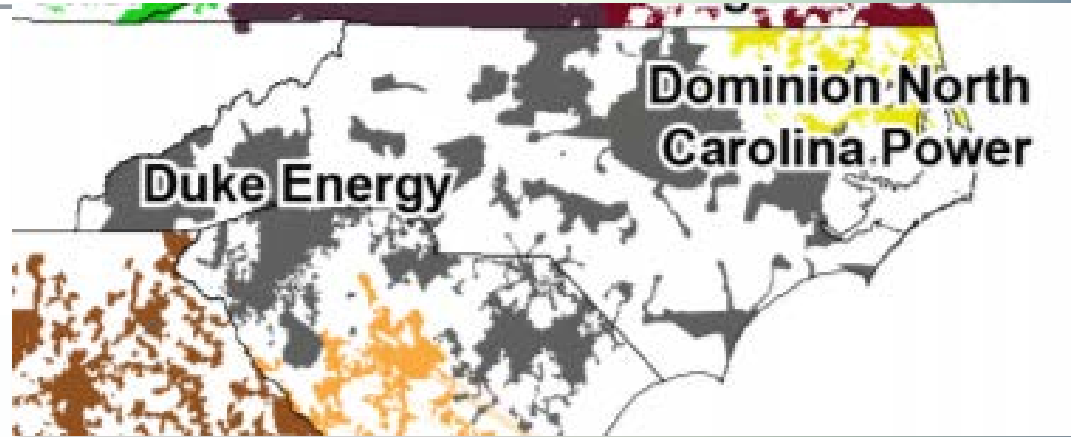
- The utility will first retire RECs for the customer's share of the RPS (e.g. 20% in 2017); all RECs in addition to those retired for the RPS will be retired on behalf of the customer (e.g. 80%).

Sources: [http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS\\_2010\\_THRU\\_PRESENT/2012-11/21480.pdf](http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2010_THRU_PRESENT/2012-11/21480.pdf) and [http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS\\_2010\\_THRU\\_PRESENT/2014-6/39059.pdf](http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2010_THRU_PRESENT/2014-6/39059.pdf)

# Duke Energy (NC)

Existing capacity signed:

- Google: 61 MW solar
- Three other customers



# Duke Energy (NC): Green Source Rider

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## Who can participate?

- Schedule OPT-G, OPT-H and OPT-I customers that have added new load of at least 1 MW since June 30, 2012

## What are the rate components and net cost (if available)?

- Pay existing rate schedule
- Pay RE cost
- Administrative charge: \$500/month and 0.02 cents/kWh
- Credit is based on avoided capacity and energy expense during which the RE was delivered to Duke
  - Credit cannot exceed RE cost

Source: <http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=12ccd38e-9021-475d-884e-d3d1c55799f6>

# Duke Energy Green Source Rider

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## What length of contract must be signed?

- 3-15 years, must be the same as Duke & RE supplier agreement contract length
- Google agreement is 15 years

## When must customers enroll?

- Application period is currently closed
- Duke is working on a new version of the program

## What are the program limits?

- Enrollment was available for a three year period following Commission approval (Dec 2016).

## Who owns the RECs?

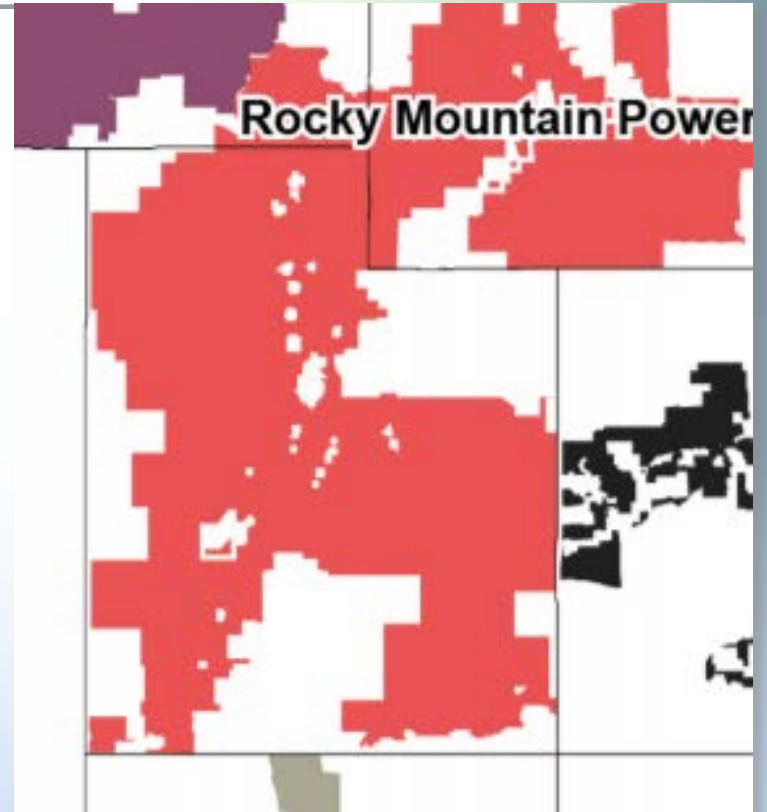
- Retired on behalf of the customer in NC-Renewable Energy Tracking System (NC-RETS)

Source: <http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=12ccd38e-9021-475d-884e-d3d1c55799f6>

# Rocky Mountain Power (UT)

**Existing capacity signed:**

- None as of April 2017



# Rocky Mountain Power (UT): Schedule 34

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## Who can participate?

- Schedules 6, 8 and 9
- Must contract for at least 2 MW, but not more than customer's peak demand

## What are the rate components and net cost (if available)?

- Costs determined on a contract-by-contract basis
  - Will include administrative fees

Source:

[https://www.rockymountainpower.net/content/dam/rocky\\_mountain\\_power/doc/About\\_Us/Rates\\_and\\_Regulation/Utah/Approved\\_Tariffs/Rate\\_Schedules/Renewable\\_Energy\\_Purchases\\_for\\_Qualified\\_Customers\\_5000kW\\_and\\_Over.pdf](https://www.rockymountainpower.net/content/dam/rocky_mountain_power/doc/About_Us/Rates_and_Regulation/Utah/Approved_Tariffs/Rate_Schedules/Renewable_Energy_Purchases_for_Qualified_Customers_5000kW_and_Over.pdf)

# Rocky Mountain Power (UT): Schedule 34

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## What length of contract must be signed?

- Varies, must be the same as RMP and RE supplier agreement contract length

## When must customers enroll?

- No timing specified

## What are the program limits?

- None

## Who owns the RECs?

- Retired on behalf of the customer

Source:

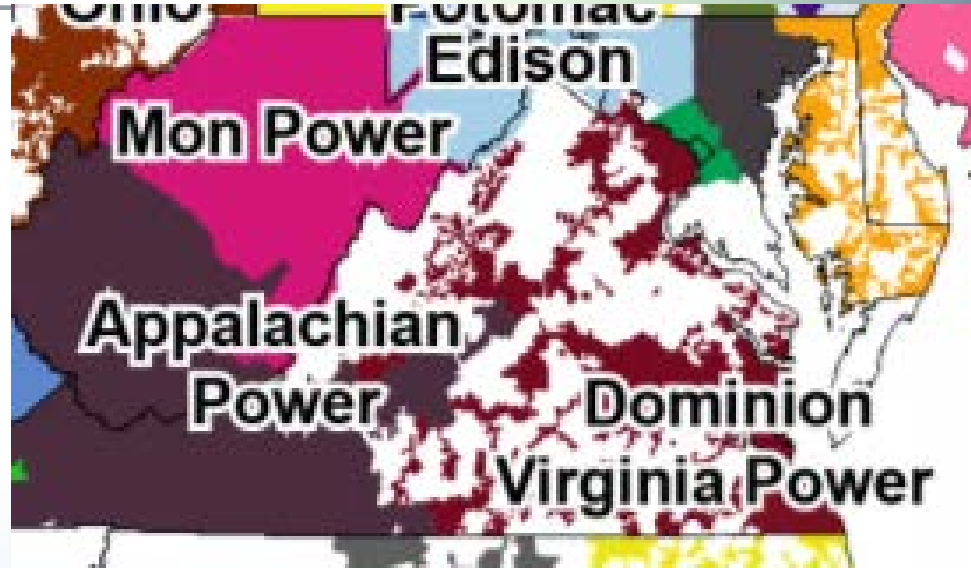
[https://www.rockymountainpower.net/content/dam/rocky\\_mountain\\_power/doc/About\\_Us/Rates\\_and\\_Regulation/Utah/Approved\\_Tariffs/Rate\\_Schedules/Renewable\\_Energy\\_Purchases\\_for\\_Qualified\\_Customers\\_5000kW\\_and\\_Over.pdf](https://www.rockymountainpower.net/content/dam/rocky_mountain_power/doc/About_Us/Rates_and_Regulation/Utah/Approved_Tariffs/Rate_Schedules/Renewable_Energy_Purchases_for_Qualified_Customers_5000kW_and_Over.pdf)



# Dominion Virginia Power (VA)

## Existing participants:

- Amazon Web Services (AWS)
  - Supports AWS contracts for 180 MW solar



## **Dominion Virginia Power (VA): Schedule Market Based Rate**

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**Unique structure** that allows Dominion customer to be charged market based rates instead of the standard Dominion tariff rates. Customers could then sign a separate agreement with an RE developer, which could sell power into the market.

### **Who can participate?**

- GS-3 and GS-4; and must have peak demand of at least 5 MW; average load factor of at least 85%

### **What are the rate components and net cost (if available)?**

- Attempts to mimic PJM market. Components:
  - Generation capacity charge (based on customer's demand billing rate)
  - Generation energy charge (based on day-ahead locational marginal prices)
  - PJM ancillary service charge
  - PJM administrative fee charge
  - Margin charge

Source: <http://www.scc.virginia.gov/docketsearch/DOCS/3b%23t01!.PDF>

# Dominion Virginia Power (VA): Schedule MBR

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## **What length of contract must be signed?**

- Minimum of 3 years

## **When must customers enroll?**

- Before November 1, 2019

## **What are the program limits?**

- Capped at 200 MW

## **Who owns the RECs?**

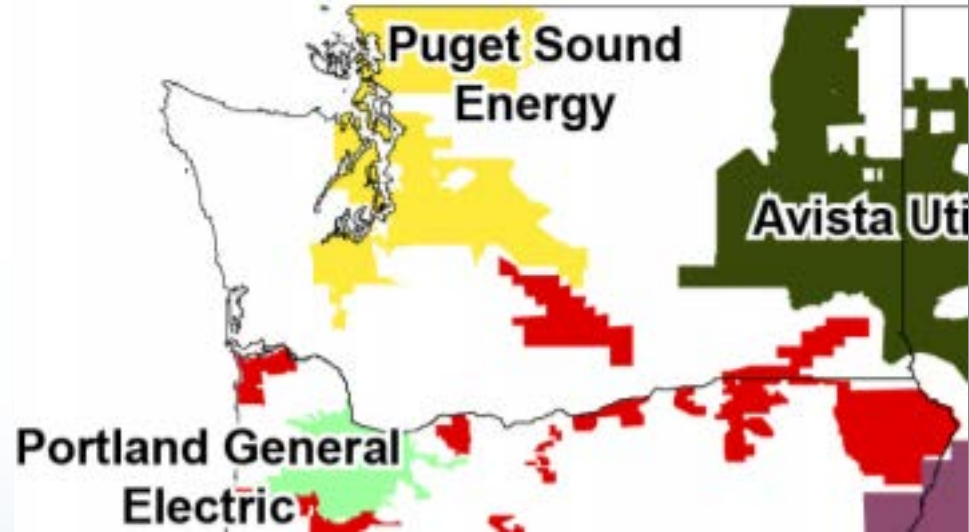
- Not applicable since the MBR rate does not involve renewables

Source: <http://www.scc.virginia.gov/docketsearch/DOCS/3b%23t01!.PDF>

# Puget Sound Energy (WA)

## Existing capacity signed:

- 25 aMW<sup>1</sup> total subscribed
- 17 aMW subscribed by local governments, 3.5 aMW by one state university



<sup>1</sup> An aMW is an average MW – the amount of electricity produced by the continuous production of one MW over a period of one year (8760 hours)

# Puget Sound Energy (WA): Long Term Renewable Energy Purchase Rider

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## Who can participate?

- Schedule 24, 25, 26, 31, 40, 43, 46 and 49 with a minimum aggregate load of 10 million kWh annually, or be a municipal, county, state or *federal institution*
- Must subscribe 100% of load at each subscribed service address

## What are the rate components and net cost (if available)?

- Pay existing rate schedule
- Pay RE cost  
(varies depending on year and contract length, 2019 levels are 5.0-5.1 cents/kWh)
- Credit is for energy-related cost component of bill (4.6 cents/kWh in 2017)
- If the energy-related cost component remains the same in 2019, the highest net premium would be about 0.4 – 0.5 cents/kWh in 2019

Sources: [https://www.utc.wa.gov/\\_layouts/15/CasesPublicWebsite/CasItem.aspx?item=document&id=2&year=2016&docketNumber=160977](https://www.utc.wa.gov/_layouts/15/CasesPublicWebsite/CasItem.aspx?item=document&id=2&year=2016&docketNumber=160977)  
[http://pse.com/aboutpse/Rates/Documents/elec\\_sch\\_139.pdf](http://pse.com/aboutpse/Rates/Documents/elec_sch_139.pdf)

# Puget Sound Energy (WA): Long Term Renewable Energy Purchase Rider

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## **What length of contract must be signed?**

- 10, 15, and 20 year options

## **When must customers enroll?**

- Annual Open Season (starting in 2017): May 1 through July 31

## **What are the program limits?**

- The program will be re-evaluated when 75 MW are subscribed

## **Who owns the RECs?**

- Retired in the Western Renewable Energy Generation Information System (WREGIS), either by customer or by PSE on customer's behalf

Source:

[https://www.utc.wa.gov/\\_layouts/15/CasesPublicWebsite/CasItem.aspx?item=document&id=2&year=2016&docketNumber=160977](https://www.utc.wa.gov/_layouts/15/CasesPublicWebsite/CasItem.aspx?item=document&id=2&year=2016&docketNumber=160977) ;  
[http://pse.com/aboutpse/Rates/Documents/elec\\_sch\\_139.pdf](http://pse.com/aboutpse/Rates/Documents/elec_sch_139.pdf)

# Comparison of Existing Green Tariff Options

Program Characteristics	NV Energy	Duke Energy	Rocky Mountain Power	Dominion Virginia Power	Puget Sound Energy
<b>Eligible participants</b>	Certain classes of large customers	Certain classes of large customers with new load	Certain classes of large customers able to purchase 2 MW+	Certain classes of large customers with peak demand >5 MW and >85% load factor	Certain classes of large customers
<b>Potential cost savings</b>	Determined by final agreement with RE supplier	Credit capped at RE cost, so no cost savings potential	Determined by final agreement with RE supplier	Depends on market rates and the separate renewable contract cost	Slight premium currently; future net cost will depend on credit escalation
<b>Length of contract</b>	At least 2 years	3-15 years; must be same length of Duke contract with RE supplier	Contract specific; must be same length of RMP contract with RE supplier	At least 3 years	10, 15, and 20 year options
<b>REC treatment</b>	Retired against customers' share of RPS obligation; beyond that, RECs are retired on behalf of customer	RECs owned by / retired for customer	RECs owned by / retired for customer	No RECs involved. Renewable contract is a separate agreement between customer and RE developer	RECs owned by / retired for customer
<b>Enrollment period and program limits</b>	No specific enrollment period Annual subscription limit: 250,000 MWh for N. Nevada, 250,000 MWh for S. Nevada	Tariff currently expired after three year pilot period; working on replacement	No specific enrollment period  No program limits	Before November 1, 2019  Capped at 200 MW	Annual Open Season May 1 <sup>st</sup> to July 31 <sup>st</sup>  Will re-examine program after 75 MW subscribed

# Contact Information

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