NARUC Winter Policy Summit

Staff Subcommittee on Rate Design

RENEWABLE ENERGY TARIFFS: MEETING ALL BUYERS' NEEDS

Caitlin Marquis, Director, Advanced Energy Buyers Group

February 10, 2019

About The Advanced Energy Buyers Group

The Advanced Energy Buyers Group is a **business-led coalition** of large energy users **engaging on policies** to expand their opportunities to procure energy that is secure, clean, and affordable.

Mission Statement

The mission of the business-led Advanced Energy Buyers Group is to engage on policies that ***make it possible for large energy users to meet their own energy needs with advanced energy*** *through expedient, flexible, and market-based solutions; and to support policies that* ***facilitate the transition to an electricity system that is secure, clean, resilient, smart, and affordable.***

Corporate demand for RE is strong, and not going away

Corporate RE transactions are growing steadily…

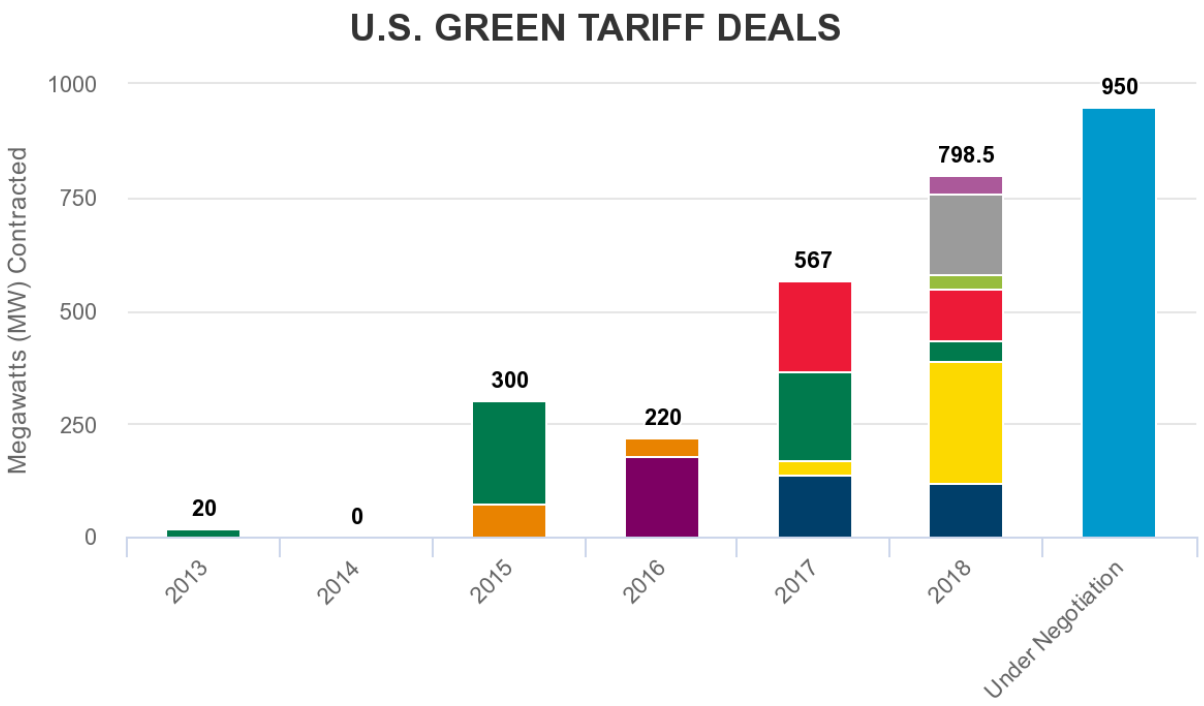
- Companies have contracted for **over 15 GW** of offsite RE since 2014, with a record **6.5 GW** in 2018 alone
- This includes almost **1.9 GW** through green tariffs

… yet market activity still lags far behind demand.

- The 78 Buyers Principles signatories represent **69 million MWh** of RE demand (~ 26 GW of renewable energy)
- More than **70 of the Fortune 100** have set RE or energy-related sustainability targets
- The RE100 now includes more than 160 companies that have committed to **100% renewable energy**

Sources: http://businessrenewables.org/corporate-transactions/#wpcf7-f942-p471-o1; https://www.wri.org/resources/charts-graphs/grid-transformation-green-tariff-deals; http://there100.org/companies.

Utilities are responding to this demand

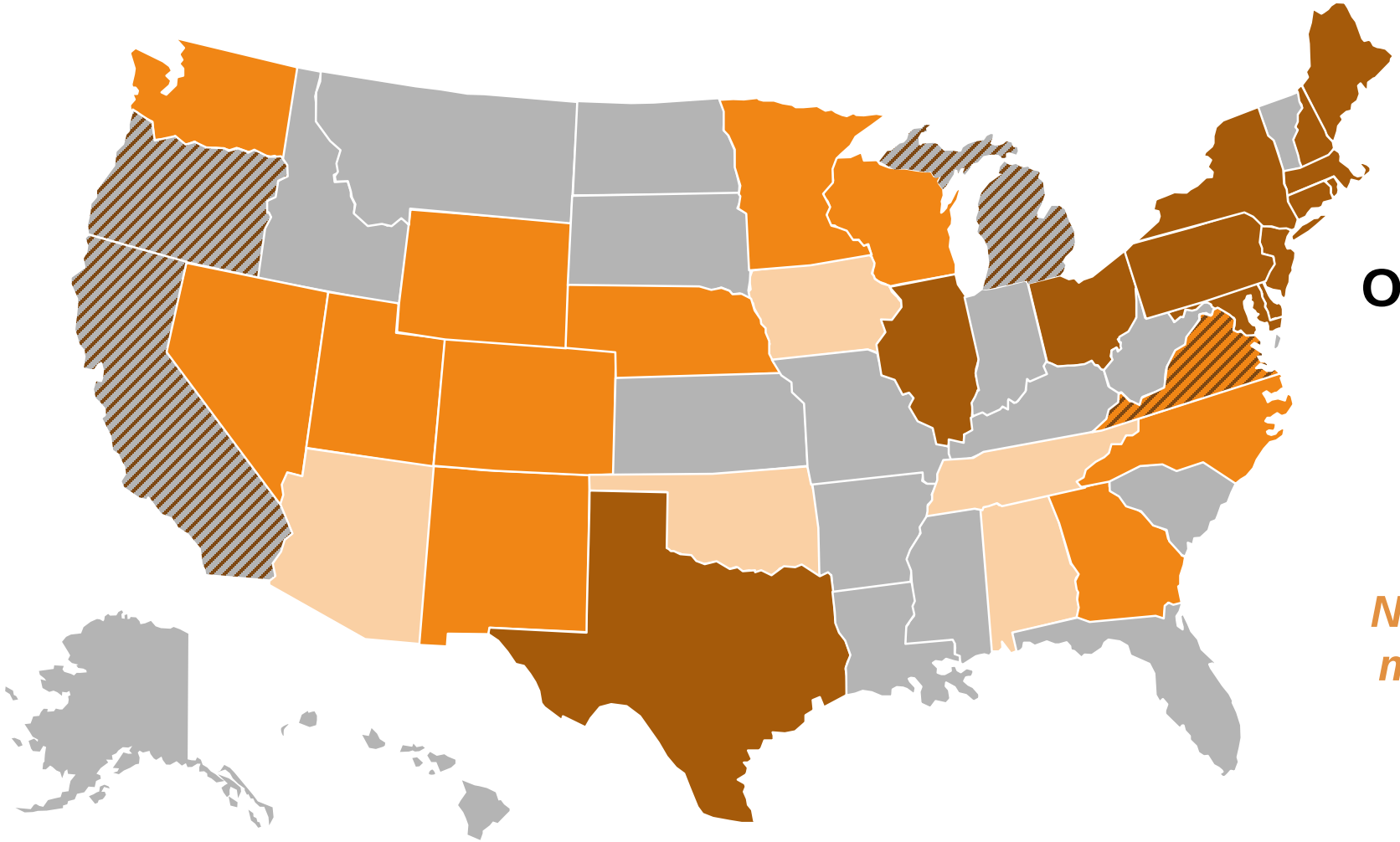


Green Tariffs
(Click to Explore Each Tariff)

- Colorado - Renewable*Connect
- Georgia - Commercial and Industrial REDI Schedule CIR -1
- Michigan - Voluntary Large Customer Renewable Energy Pilot Program
- Nebraska - Schedule No. 261 M
- Nevada - Green Energy Rider, Schedule NGR
- New Mexico - Green Energy Rider, No. 47
- North Carolina - Green Source Rider, Rider GS
- Virginia - Schedule MBR
- Washington - Green Direct, Sched No. 139
- Under Negotiation

Source: **World Resources Institute** (https://www.wri.org/resources/charts-graphs/grid-transformation-green-tariff-deals).

Yet significant gaps still exist



Offsite Purchasing Options

- Retail Choice
- RE Tariff in place*
- Individualized solution

NOTE: Even in shaded states, many C&I customers lack RE purchasing options

*A program is considered a RE Tariff for the purposes of this map if it is made available to more than one customer; note that some such programs have, to date, only met the needs of a single customer.

Some best practices translate across states

- **Program Cap & Expansion:** Sizable initial offering, with clear path for future expansion as it fills up
- **Customer eligibility:** Customers ~1 MW or above, allowing for aggregation
- **Resource selection process:** Competitive solicitation
- **Term:** Multiple options, including medium-length contracts (10-15 years)
- **Termination provisions:** Clear, based on remaining incremental cost, and allowing for transfer
- **REC treatment:** RECs are transferred or retired on customer's behalf
- **Administrative fees:** Cost-based, not excessive, and fair for different customer types

But the right rate design will depend on state circumstances

There are a few main categories of "RE Tariffs"

- **Rider based on PPA price + admin costs, minus credits for:**
  - Wholesale energy + capacity value
  - Utility avoided cost
  - Fuel swap, or unbundled services not used
- **Tariff designed from ground up**
- **Market-based rate**
- **REC premium from specified facility**

Keep in Mind: *There may not be a* ***"One Size Fits All"*** *solution for customers of different size, with different needs regarding risk, price, term, etc.—and this is okay*

Recommendations

1. **Listen to your customers**—and aim to bring in different types of customers (retailers, tech, manufacturers, municipalities, universities, hospitals, etc.) early in the process

2. Rather than starting from scratch, **adopt or replicate best practices and lessons learned** from other utility programs

3. Take time to **figure out what makes sense for your state** or your utility and take advantage of these specific circumstances rather than fighting them

4. Listen to customers again, and **iterate as needed** once the program is in place

Thank you!

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Green Tariffs: How to satisfy customer and utility needs?

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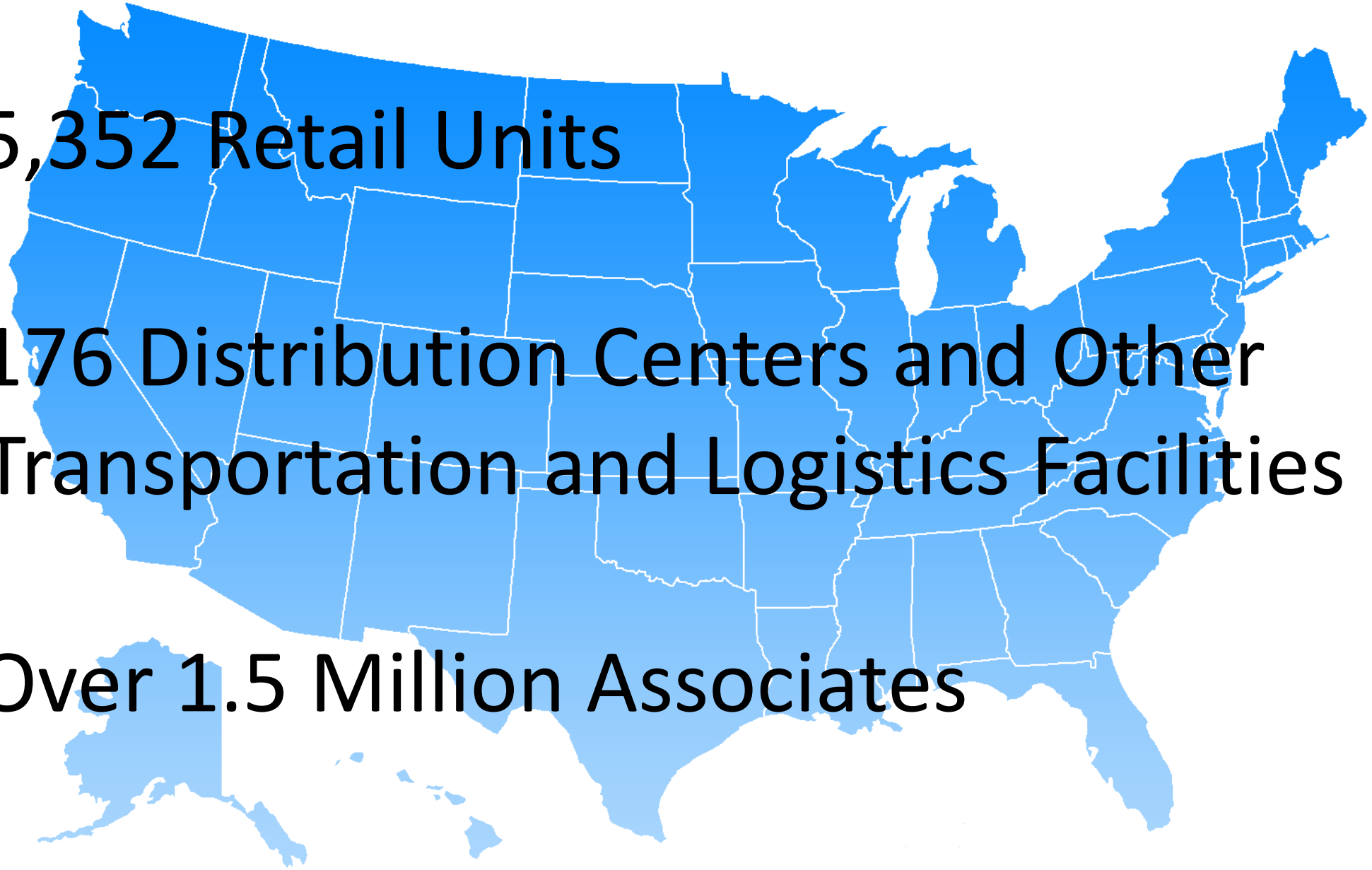
Walmart in the United States



- 5,352 Retail Units
- 176 Distribution Centers and Other Transportation and Logistics Facilities
- Over 1.5 Million Associates

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Walmart's 2025 Energy Commitments

- In 2005 we set an aspirational goal to be powered 100% by renewable energy

- On November 4, 2016 we announced new sustainability goals for 2025 that build on our existing energy goals
  - Be supplied by 50% renewable energy
  - Use a combination of energy efficiency and renewable energy to reduce emissions in our operations by 18 percent
  - Target is science-based, which is the level of de-carbonization needed to keep global temperature increase below 2°C compared to pre-industrial temperatures

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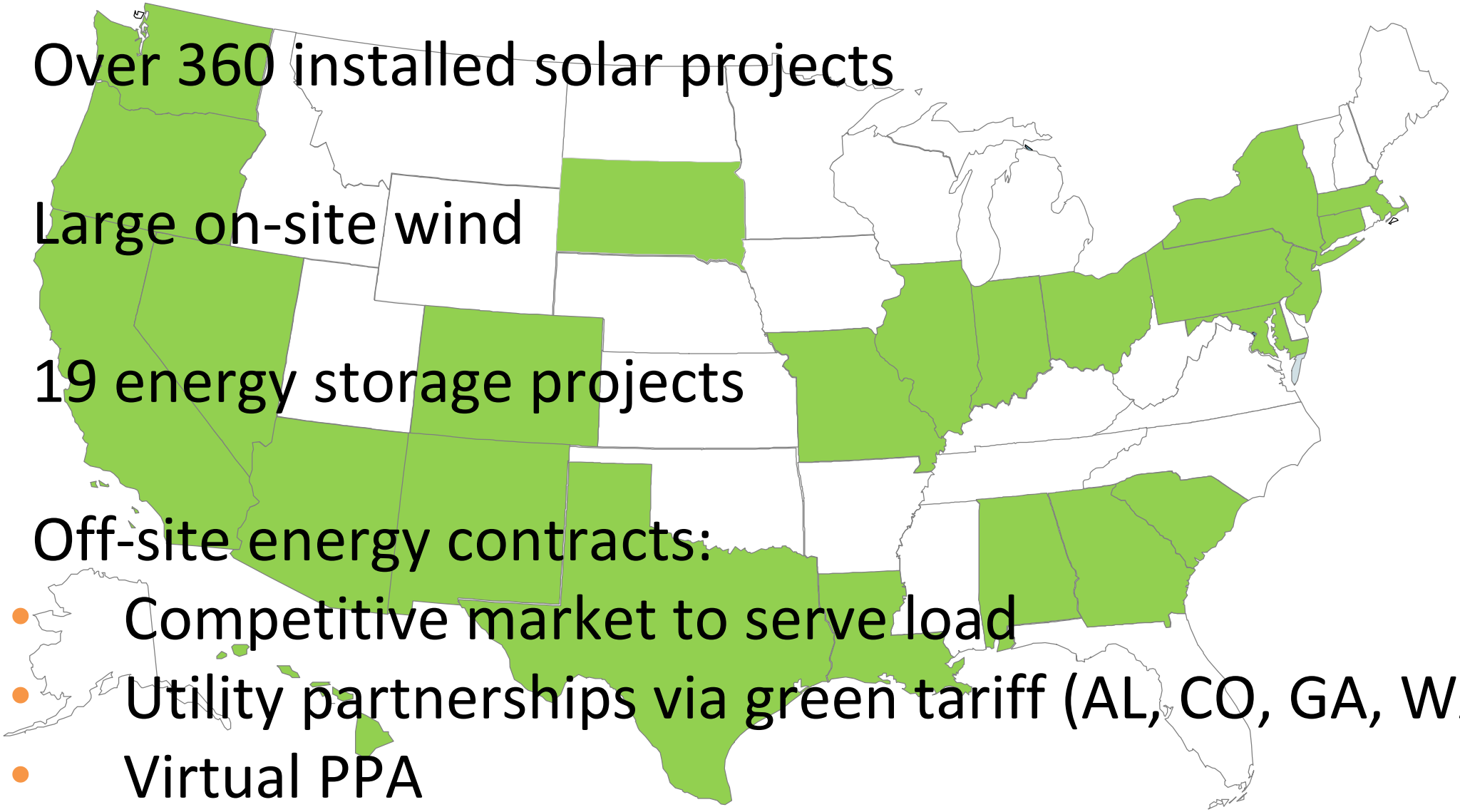
Walmart Renewable Energy in the U.S.: 25 States, Puerto Rico, and Counting



- Over 360 installed solar projects
- Large on-site wind
- 19 energy storage projects
- Off-site energy contracts:
  - Competitive market to serve load
  - Utility partnerships via green tariff (AL, CO, GA, WA)
  - Virtual PPA

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Renewable Resources for Walmart

Three Channels to Secure Resource Supply

Off-Site

- Structured for renewable energy to replace other energy, both physically and on bill
- Can utilize Texas Retail Energy, our in-house electric supplier, in deregulated retail markets where generation service can be provided by a company other than the wires utility

On-Site

- Contribution to renewable energy goals by replacing grid energy with energy from on-site resource
- Reduce operating costs for site
- Net metering compensation is not a driver

Utility Partner

- Work with utilities to develop workable and economic green tariff structures within the regulatory compact
- Some potential models:
  - Green tariff/sleeved resource
  - Shared resource (community or large scale)
  - On-site partnerships

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Sounds great! So it all comes down to price, right? No.

Barriers in the Three Channels

Off-Site

- Limited number of deregulated markets
- Participation caps
- Pressures within some of those markets to erode customer ability to shop for generation service

On-Site

- Not all states allow third party financing of on-site generation (PPAs, leasing)
- System size restrictions
- Standby charges assessed on systems can add significant cost

Utility Partner

- A willing buyer needs a willing seller…
- Approval process and ratemaking concerns
- Full requirements contracts
- Speed-to-market
- Cost-shifting to other customers (is the program subsidized?)
- Administration and marketing costs
- New vs. existing load

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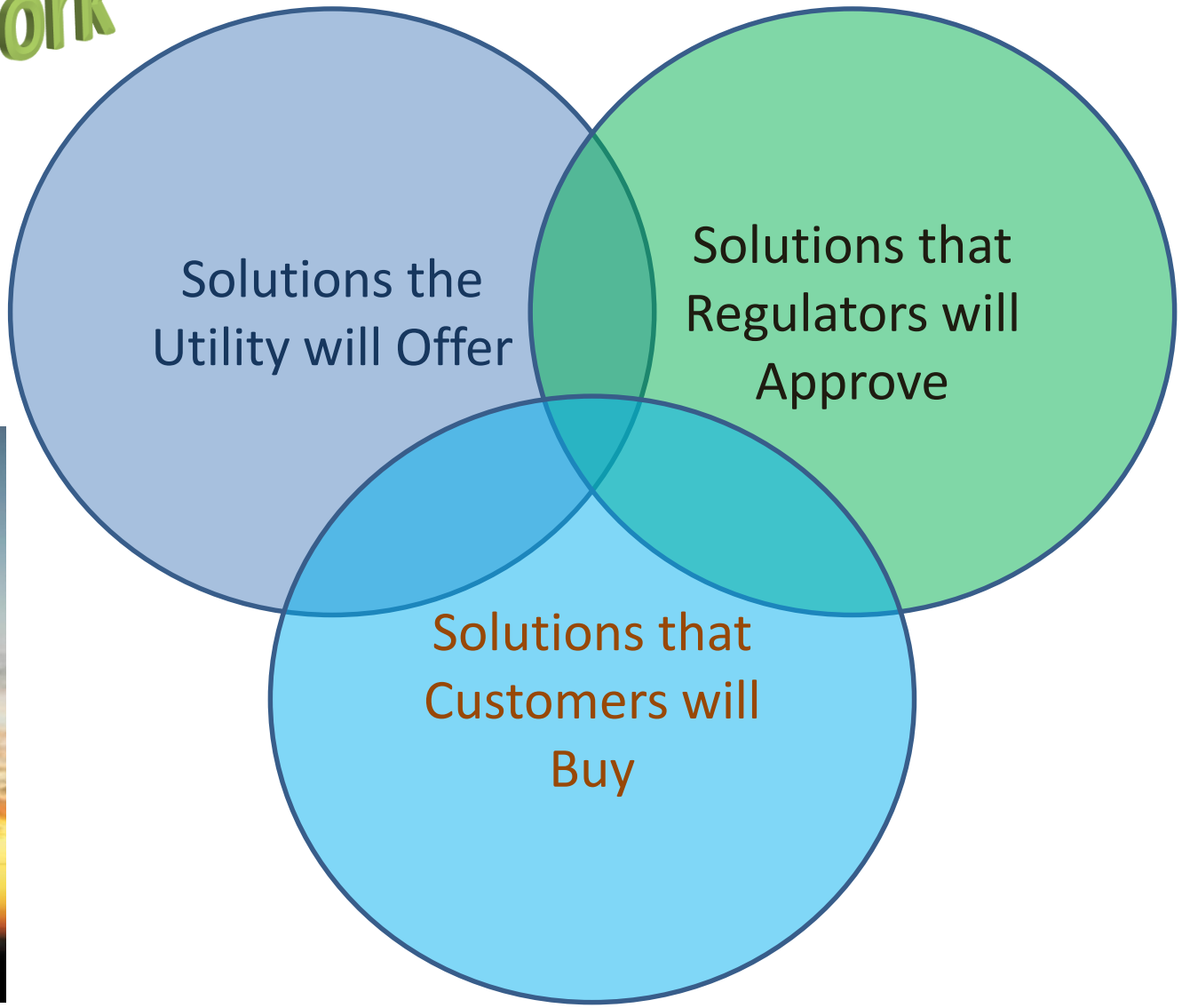
Green Tariff Solutions that Work



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Things that Matter to Walmart

RECS

COMPATIBILITY

FEES

SUPPLY

TERM

RISK/REWARD

VALUE

SUBSIDY-FREE

BILL TO STORE

EARLY TERMINATION

CREDIT DESIGN

AVAILABILITY

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Some Attractive Structures

Georgia Power Company – REDI

Puget Sound Energy – Schedule 139

Kentucky Power Company – Renewable Power Option (B)

XCEL Minnesota – Solar*Rewards Community®
Colorado – Renewable Connect

MA SMART – Solar Massachusetts Renewable Target

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Final Thoughts

Carbon Tax Impact

Speed to Market

Don’t Rule out Additional System Resources that Benefit All Customers and Offer Renewable Attributes

AEP – PSO/SWEPCO – Wind Catcher

It may take more than one solution

It may take more than one solution

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Thank you!

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Georgia Power's Commercial & Industrial (C&I) Renewable Energy Development Initiative (REDI)

NARUC

February 2019

C&I REDI Program Overview & Status

Program Design:

- 177.5 MW of subscriptions with 10-30 year customer agreement term length options
- Fixed "portfolio" program charge
- Customer receives hourly credits at actual hourly running cost of incremental generation (system lambda) for output from portfolio facilities
- RECs produced by portfolio facilities retired on customer's behalf
- Late 2019/Mid-2020 expected COD for portfolio facilities

Benefits of Program:

- Provides hourly credit and RECs
- Greater choice in customer options to procure renewable energy
- Provides access to renewable energy at competitive rate
- Utilizes non-customer financing with standardized and simplified process
- Satisfies 6 of 6 Corporate Renewable Energy Buyers' Principles

Renewable Energy Buyers' Principles

- ✓ **Choice**
  - Greater choice for renewable options
- ✓ **Cost Competitiveness**
  - More options compared to traditional rates
- ✓ **Long Term Pricing**
  - Long term, fixed contracts
- ✓ **New Projects**
  - Reducing energy emissions over business as usual
- ✓ **Financing Tools**
  - Third party financing, standardized contracts, and simplified process
- ✓ **Cooperation**
  - Increase options from utilities and regulators

Current Status:

- Two solar facilities under development (57.5 MW & 120 MW)
- 2019 IRP filed with Georgia PSC Jan. 31
- Includes request for 950 MW of new utility-scale renewable resources available for customer subscription

C&I REDI Program Details

Program Charges & Credits

- C&I REDI Program Charge:
  - Levelized dollar per kWh pricing over term of Customer Agreement
  - Minimum ten (10) year term length
- Hourly Credit:
  - RECs retired on customer's behalf
  - Actual hourly running cost of incremental generation (system lambda) for pro-rata share of portfolio output

Customer Eligibility Requirements

- Existing Georgia Power commercial or industrial customers
- Aggregate peak demand of three (3) MW or greater
- Aggregated accounts must be under common ownership or common control
- Subscription Level cannot exceed 100% of annual total energy consumption

C&I REDI Program Timeline

2016

- Jan. 29– Filed Integrated Resource Plan (IRP)
- Aug. 2– Commission Approval of IRP Stipulation

2017

- Aug. 9– Commission Approval of C&I REDI Program
- Sept. 1-Oct. 2– Customer Notice of Intent Application Period
- Dec. 15– Completed C&I Proposal RFP Evaluation

2018

- Jan. 26– Executed Customer Agreements
- Jan. 29– Executed C&I REDI PPAs
- Apr. 3– Certification of C&I REDI PPAs

2019

- Dec. 31– Commercial Operation of 120 MW Dougherty County Solar Facility

2020

- June 30– Commercial Operation of 57.5 MW Tanglewood Solar Facility

C&I REDI Program Regulatory Information

- C&I REDI Program information on Georgia Power's website
  - https://www.georgiapower.com/company/energy-industry/energy-sources/solar-energy/solar/c-and-i-redi.html
- C&I REDI tariff (Schedule CIR-1)
  - https://www.georgiapower.com/content/dam/georgia-power/pdfs/business-pdfs/rates-schedules/ci-redi-tariff.pdf
- C&I REDI Program Filing Documents on GPSC website (Docket No. 40161)
  - http://www.psc.state.ga.us
- C&I REDI PPA Filing Documents on GPSC website (Docket No. 41734)
  - http://www.psc.state.ga.us

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Providing Customers with Renewable Energy Options

Retail Renewable Energy

GREEN POWER
SCH 135, 136

- PNW REC purchases
- 40,000 customers
- Residential, commercial,

SOLAR CHOICE
SCH 135

- Solar RECs WA and ID
- Launched 2017
- Residential and small

BULK REC PURCHASES

- Excess PSE wind RECs
- 10,000,000 kWh
- Large business

GREEN DIRECT
SCH 139

- Long-term partnership with PSE for dedicated energy resources

Customer Generation

NET METERING
SCH 150

- Up to 100 kW
- Full retail compensation
- ~7,500 customers

SMALL POWER PRODUCERS
SCH 91, 152

- 100 kW – 5 MW
- 15 year pricing based on avoided cost

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Green Direct Participants

Phase 1 Participants

City of Anacortes
City of Bellevue Washington
City of Bellingham Washington
City of Issaquah Washington
City of Lacey
Langley Whidbey Island
City of Mercer Island Washington
Olympia
City of Snoqualmie
City of Tumwater
King County
Port of Seattle
REI co-op — HQ AND FIVE WASHINGTON STORES
Sound Transit
Starbucks — 116 WASHINGTON STORES
State of Washington
Target Corporation — SEVEN WASHINGTON STORES
Western Washington University
Whatcom County Washington
City of Kirkland

Phase 2 Participants

Bellevue College
City of Bellevue Washington — (CITY OF BELLEVUE UTILITIES)
City of Issaquah Washington
City of Redmond Washington
Department of Ecology State of Washington
Washington State Department of Social & Health Services
Kaiser Permanente
Kent Washington
Port of Bellingham Washington State
Providence St. Joseph Health
University of Washington Bothell
Washington State Department of Health
Washington State Department of Labor & Industries
WSDOT
Washington State Patrol
Sound Transit
T-Mobile

Amazon | Issaquah School District | Walmart

"PSE's Green Direct project is entirely consistent with our climate goals to take bold steps that will cut our climate footprint and benefit generations to come."

—Dow Constantine, King County Executive

"PSE's Green Direct tariff directly benefits Washington, is a pioneering model for utilities nationwide, and supports REI's success in continuing to operate 100 percent on renewable electricity."

—Vik Sahney, REI Divisional Vice President of Sustainability

"Signing on to use renewable energy through the Green Direct program is an all-around WIN for T-Mobile."

—Mike Sievert, President and COO of T-Mobile

PSE PUGET SOUND ENERGY

PSE Customers Asked For:

- Energy that reflects their values
- NEW Renewable energy development
- A hedge value with known future energy costs
- Reduced carbon footprint
- Connection to a specific project
- Increased sustainability

PUGET SOUND ENERGY

Green Direct Objectives

- Create a new partnership between PSE and Customers
- Responsive to Customer requests
- Developing New Resources that make a difference
- Cost Competitive – green power priced fair to system power
- Long Term Price – for a long term resource
- Utility-Based – no hassle, reliable, safe

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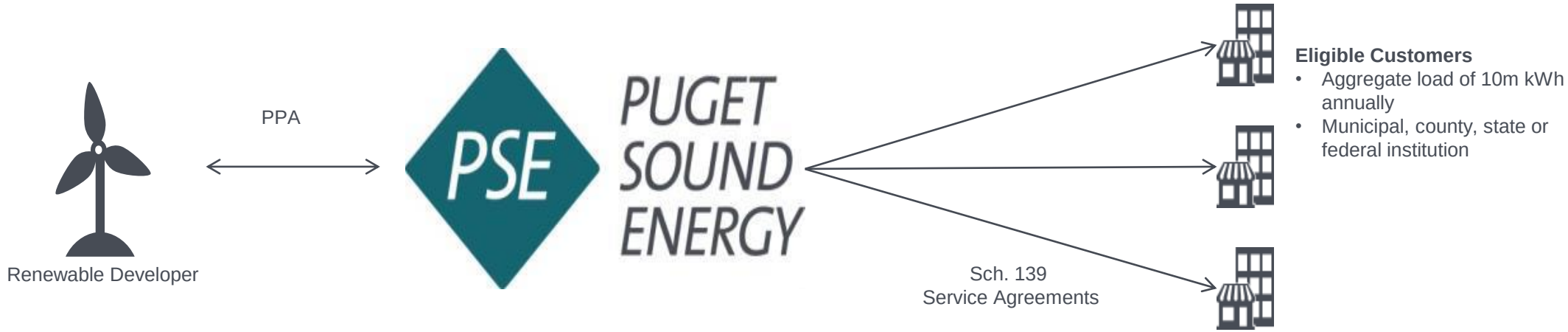
Customers Commitment Leads to New Resources



Customers Cover Renewable Energy & Receive Credit for Energy-Related Costs in Existing Rates

Charges

Tariff includes price strips for 10, 15, and 18 year service agreements

Cost of Renewable Energy (with RECs)

Losses and Taxes

Billing system updates

Annual reporting of renewable energy certificates, etc

Credits

Updated during GRC, power-cost only rate cases, and other power-related filings

Standard Energy-Related Power Costs

Not Included:
Demand-Related Power Costs
Transmission & Distribution
Billing, Meters, Meter Reading, Customer Accounting and Services

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Green Direct Billing Example

Electric Detail Information: 12345 POWER AVE S, Bellevue

Rate Schedule	Meter #	Start Date / Read	End Date / Read	Multiplier	Kilowatt Hours (kWh)	Electric Demand (kVA)	Reactive Power (kVAR)	Meter Read Type
Commercial 24	Z012345678	1/21	2/20	10	2,300	—	—	Actual Read
		12456	12686					

Your Electric Charge Details (30 days)	Rate x Unit		=	Charge
2,300 kWh used for service 1/22/2015 - 2/20/2015				
Basic Charge	$25.81	per month	$	25.81
Electric Energy Charge	0.095073	2,300 kWh		218.67
Other Electric Charges & Credits				
Electric Cons. Program Charge	0.004620	2,300 kWh		10.63
Power Cost Adjustment	−0.001375	2,300 kWh		−3.16
Merger Credit	−0.000315	2,300 kWh		−0.72
Federal Wind Power Credit	−0.002478	2,300 kWh		−5.70
Renewable Energy Credit	−0.000165	2,300 kWh		−0.38
Premium Green Energy Credit	−0.047010	2,300 kWh		−108.12
Premium Green Charge (139.101 Wind Blend)	0.048500	2,300 kWh		111.55
Subtotal				248.58

Numbers are for illustrative purposes only

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Thank you

Jon Piliaris, Director, Regulatory Affairs

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