

Emerging Trends in Utility Green Power Products

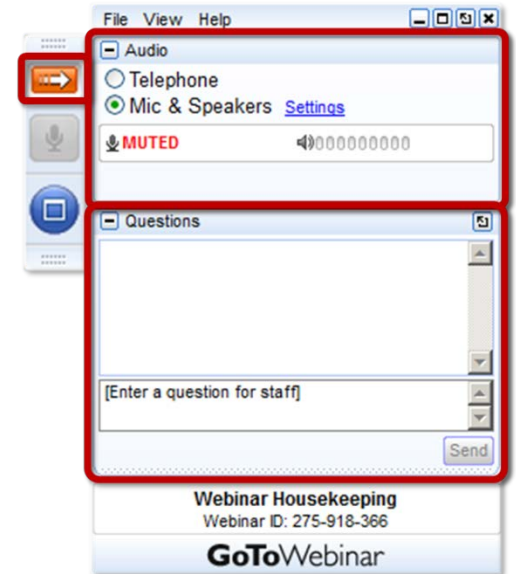
October 28, 2015



Webinar Logistics

- Attendees are muted to reduce background noise.
- Submit questions and comments in writing via the Questions field in the webinar control panel.
- To minimize or maximize the control panel, click on the arrow button at the top left of the tool bar.
- Presentations will be posted online:

<http://www.leg.mn/projects/2025.html>



Speakers



Moderator

Lise Trudeau

*Sr. Engineering Specialist,
Renewable Energy and Advanced Technologies
Minnesota Department of Commerce,
Division of Energy Resources*



Voluntary Green Power Programs in 2015 and Beyond

Adam Capage

*Vice President, Utility Partnerships
3Degrees*



Emerging Trends in Green Tariffs

Letha Tawney

*Director of Utility Innovation and
Polsky Chair for Renewable Energy
World Resources Institute*



Context

- e21 initiative Phase I report, December 2014
Recommendations included development of innovative utility service offerings to meet market demand.
- MN 2025 Energy Action Plan, 2015-2016
Green tariffs highlighted for potential to facilitate transition to clean energy.
- Meister Consultants for AEE, October 2015
Analysis highlights MN policy potential for green tariffs. Estimated 8,900 MW of new renewable capacity to meet large corporate energy load.

Context

- **Electric vehicle charging tariffs:**
 - December 2015: Investor owned utilities to file framework for an all-renewable rate option for electric vehicle charging
 - PUC Docket numbers:
 - 15-111, 15-112, 15-120

Speakers



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VOLUNTARY GREEN POWER PROGRAMS IN 2015 AND BEYOND

PRESENTED TO

Webinar – Emerging Trends in Utility
Green Power Products

01



*Market
overview*

02



*Different
structures*

03



Why utilities?

04



Best practices

01

02

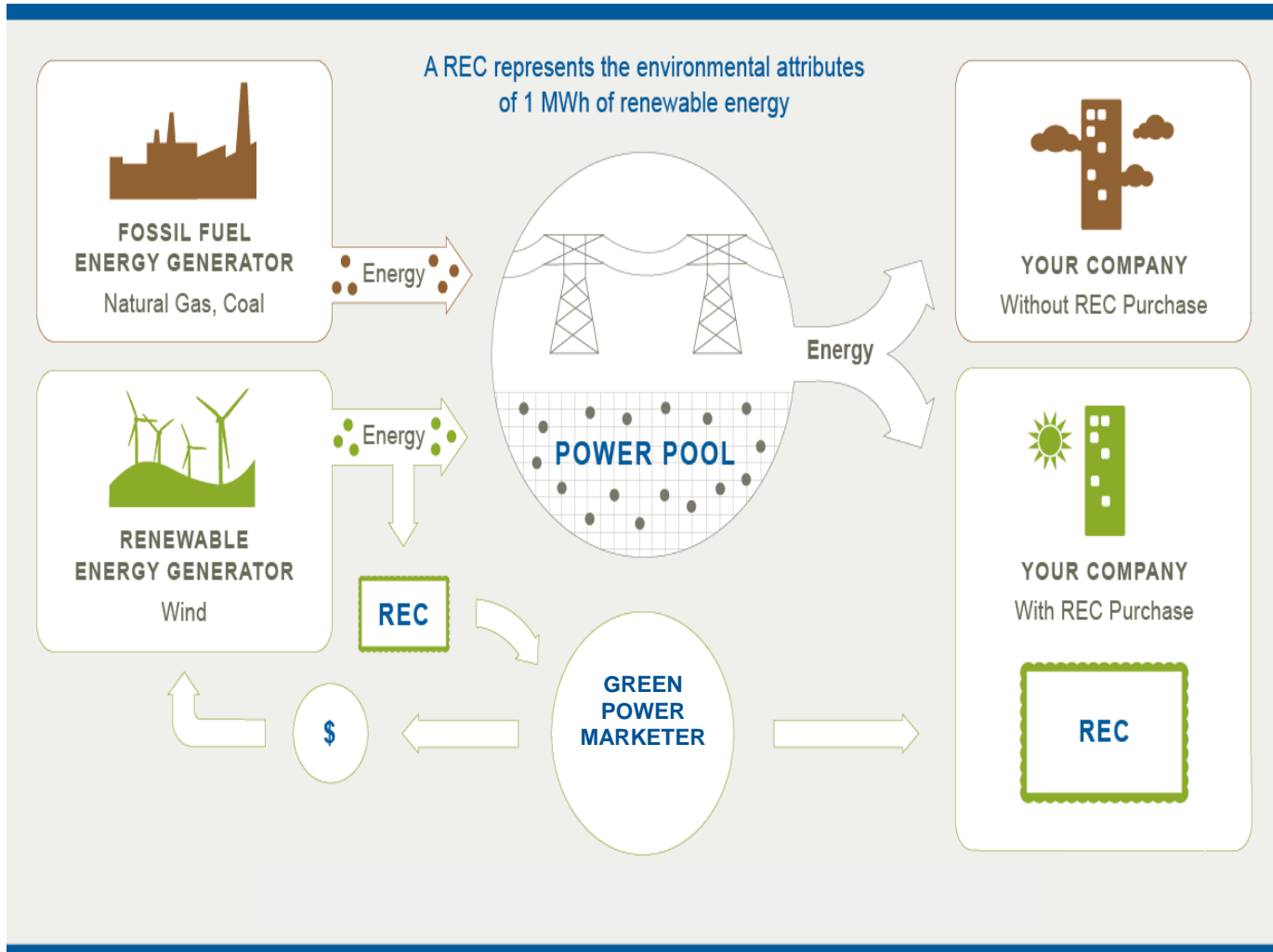
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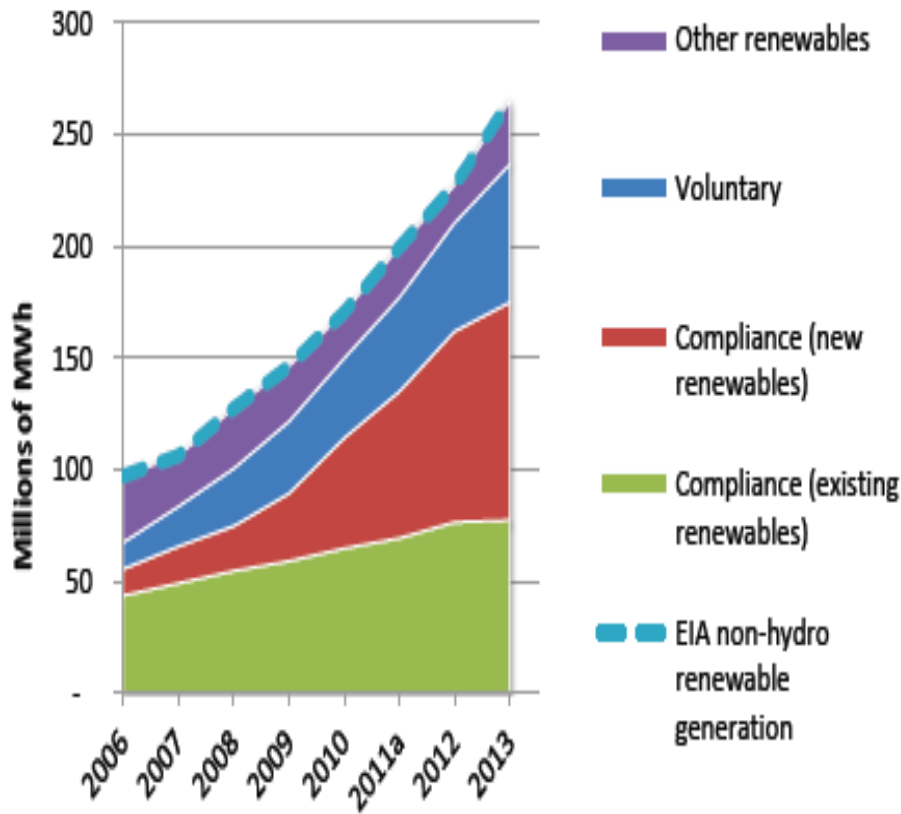


Market Overview

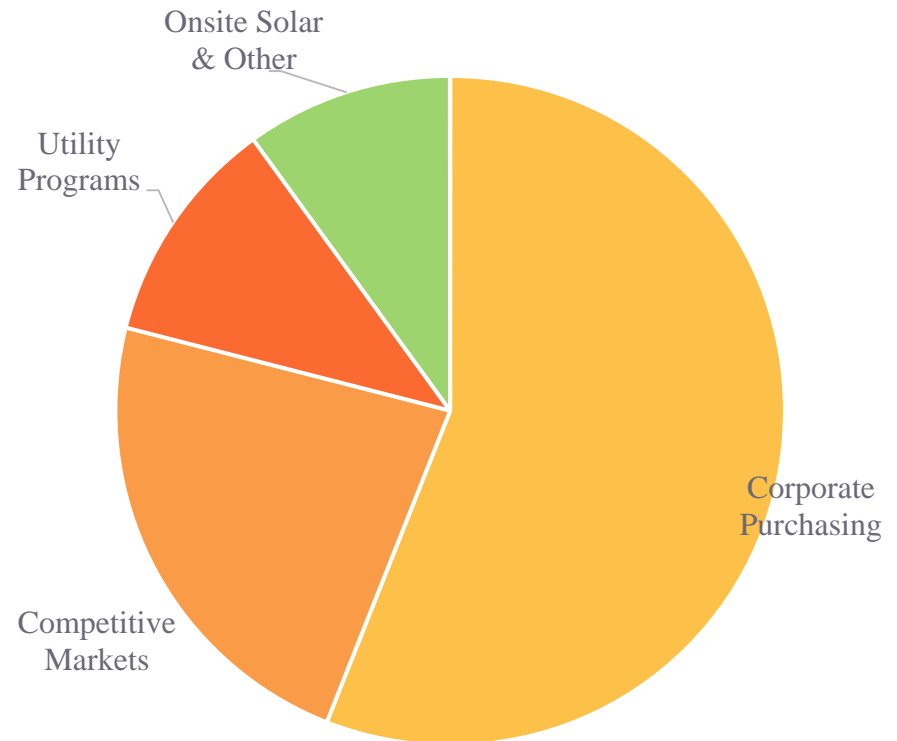
A Quick REC Primer



Full Market Overview



Voluntary Market



Today's Market Realities

REC BASED PROGRAMS

- + Handful of very successful programs
- + Many programs just maintain basic performance
- + Mature programs struggle to outpace churn to find program growth
- + Not a lot of new programs starting

SOLAR MARKET

- + Rapidly changing market place
- + Utility concerns about net metering and Value-of-Solar Tariffs (VOSTs)
- + Desire from multiple parties to expand access to solar
- + Customer demand across all segments



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Different Structures



How Commercial Purchases are Getting Done

TARIFFED PRODUCT

- + Through the same program available to residential customers
- + Bulk rate options
- + Hybrid deals

ONE-OFF DEALS

- + One-off deal negotiation
- + National REC tariffs
- + Self-allocation of existing state surcharges

Pacific Power's Blue Sky program – Case Study

SMALL – MEDIUM SIZED BUSINESS CUSTOMERS

- + Same product options as residential customers
- + Green-e Energy certified
- + Blend of local, newer wind, biomass, geothermal and solar
- + Suite of marketing / recognition benefits

LARGE BUSINESSES CUSTOMERS

- + Western Region wind sold in 100-kWh blocks for \$1.95 each
 - + Bulk rate pricing – price per block decreases with each block over 100
 - + Hybrid deals – partners with a REC vendor to blend a percentage of Blue Sky blocks with lower priced RECs
 - + Oregon – Self-allocate public purpose charges of 3% to Blue Sky program
 - + One-off deals – Similar to a hybrid deal but 100% of the enrollment counts towards program MWh sales
- + Green-e Energy certified
- + Suite of marketing / recognition benefits

Austin Energy's GreenChoice – Case Study

STRUCTURE

- + 100% Texas Wind, secured through long-term supply contracts
- + GreenChoice charge replaces traditional energy charge
- + Green-e Energy certified

MARKETING

- + Target commercial customers from the beginning
- + Key Account Managers sell GreenChoice to their customers through existing relationships

BENEFITS

- + Stable Price
- + Large purchasers also qualify for EPA Green Power Partner Program, City of Austin's Green Business Leaders, LEED credits, and Austin Energy Green Building ratings

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Why Utilities?

Why business customers choose utilities

- + Existing relationship
- + Flexible pricing tiers
- + No contracts to sign
- + No RFP process
- + Marketing / recognition benefits

Sample of businesses who participate in utility programs

- + Tech companies - Apple, Inc; Dell, Inc
- + Government Agencies – MN Municipal Pollution Control Agency, Metro Transit, U.S. Environmental Protection Agency, U.S. National Park Service
- + Aerospace - Lockheed Martin
- + Breweries – Full Sail, Widmer Brothers, Deschutes, and many, many more
- + City Governments – St. Paul, MN; Park City, UT; Washington D.C.; Austin, TX
- + Colleges & Universities – University of St. Thomas, Bemidji State University, University of Wyoming, University of Wisconsin, Santa Clara University

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Best Practices

Best Practices

PROGRAM SPECIFIC

- + Supply
 - + Retire the REC
 - + Newer projects, local, longer term contracts (all solar or wind)
- + Invest in marketing
- + Become Green-e Energy certified
- + Set smart pricing

BUSINESS CUSTOMER SPECIFIC

- + Minimize barriers
- + Offer monthly pricing with flexibility to pay annually
- + Simplify participation tiers (small – med purchasers)
- + Align participation tiers with EPA recognition (large purchasers)
- + Appeal to larger purchasers
- + Establish attractive marketing benefits



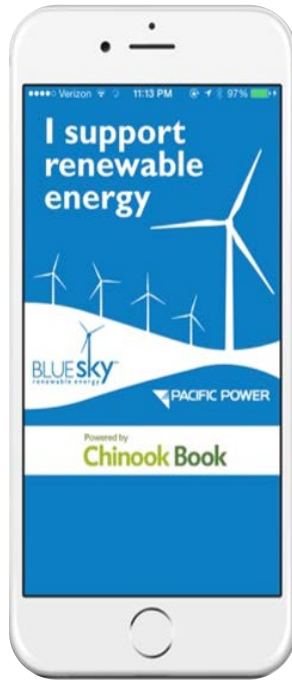
Marketing Tactics



HIGH TOUCH, SERVICE CENTERED TACTICS

- + Courtesy Knock
- + Call Center / Courtesy Calls

Marketing/recognition benefits



MOBILE COUPONS



SOCIAL MEDIA

Together we're making a difference.
15 years – 100,000 strong!

Congrats, Rose!

You rose to the Blue Sky® Challenge!

More than 670 residents and local businesses came to support of renewable energy in Roseburg by more community supports renewable energy equivalent to the road annually.

Thanks to your impressive commitment to renewable energy, your community will receive a 2.2-kilowatt solar power array.

You can still join your community in making a difference for business in Blue Sky by visiting pacificpower.net/bluesky or call 1-800-769-3717.

Many thanks to our community of more than 100,000 customers, including the business partners listed below, for stimulating renewable energy development and paving the way for a more sustainable future. We're celebrating 15 years of Blue Sky™ customers who have supported billions of kilowatt-hours of renewable energy-to-date, which is equivalent to taking 621,000 cars off the road, join them today! Learn more at pacificpower.net/bluesky or call 1-800-769-3717.

City of Mt. Shasta
Del Norte Tripple
Farm Girl Antiques
Pioneer Auto Body
Roseburg Forest Products
Shasta Visions
Subtrac
Yreka Computer

BLUE SKY renewable energy
PACIFIC POWER
Let's turn the answers on.

Huge thanks to all our Roseburg customers for choosing the following Blue Sky business partners:

Alexanders Creek Cusine	Salud Restaurant
Aler & Horton	Shawn's Provisions
Ammon & Wares	Southern Home
Art's Shoe Repair	Staples
Biscotti Cafe	Swenson Group
City of Roseburg	Ta Ta's New Day
HR's Electrical Apparatus Sales & Service	Tappity Tattoo
Foodie Bar & Cafe	UCAN
Luggers Tap House	Umqua Course
Myra's Bar	Umqua Dairy
Parents Action Council	Umqua Linens
Roseburg Forest Products	Umqua Village
Roseburg Hydroponics	

ADVERTISING

More resources

- + NREL top ten list:

<http://apps3.eere.energy.gov/greenpower/resources/tables/topten.shtml>

- + NREL State of Voluntary Market report:

http://www.nrel.gov/analysis/market_green_power.html

- + EPA Green Power Partnership:

<http://www3.epa.gov/greenpower/index.htm>



Contact



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Speakers



Emerging Trends in Green Tariffs

Letha Tawney

*Director of Utility Innovation and
Polsky Chair for Renewable Energy*
World Resources Institute



WORLD
RESOURCES
INSTITUTE

EMERGING TRENDS IN GREEN TARIFFS

Letha Tawney, Director – Utility Innovation
October 28, 2015
MN Dept of Commerce webinar



WRI'S ENERGY WORK | We foster collaborations between utilities, large energy buyers and regulators to create opportunities for cost-effective renewable energy deployment.



COMPANIES ARE BUYING RENEWABLE ENERGY IN MANY WAYS TODAY

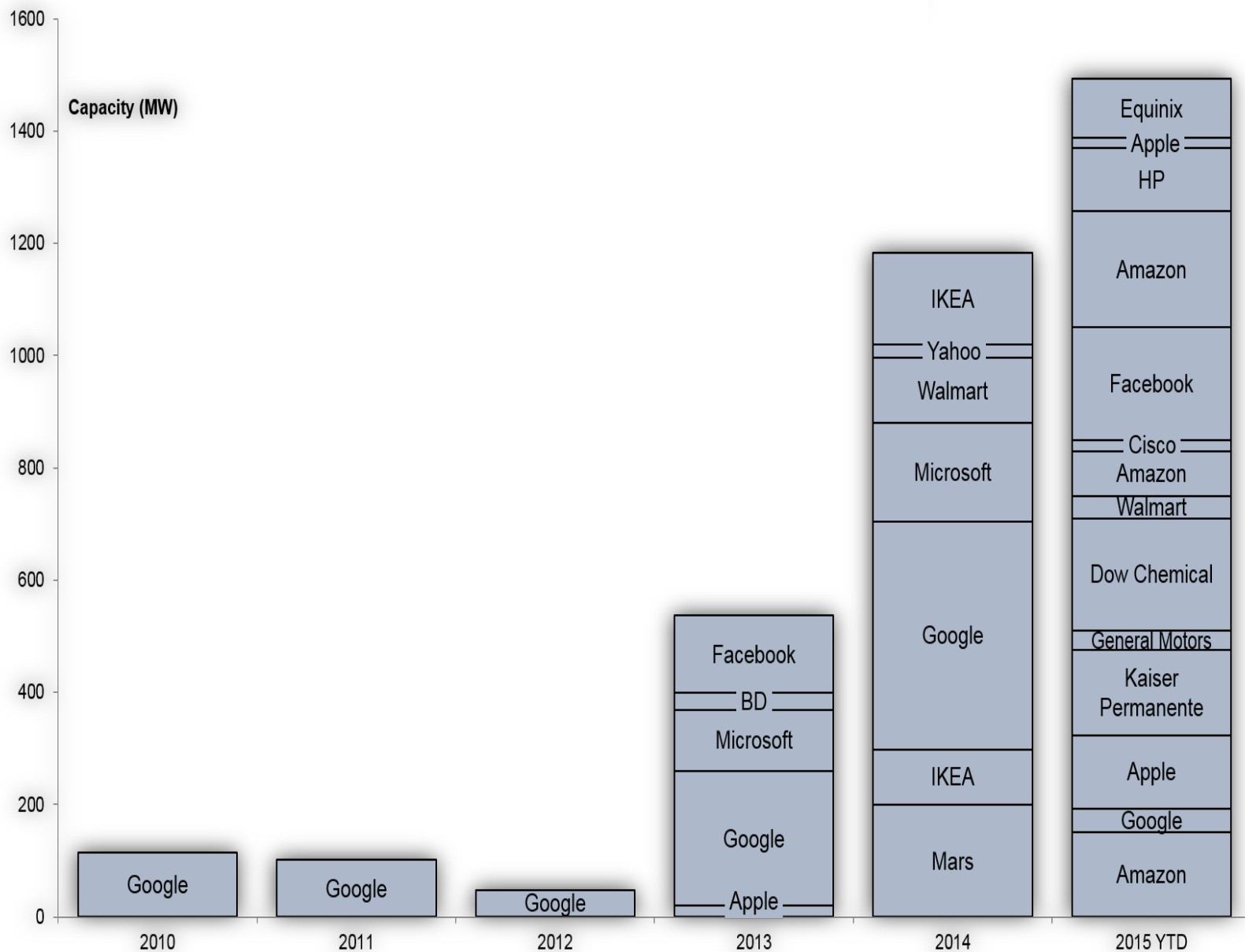
Unbundled RECs

- Green Power Programs
- RECs contracts with projects
- Purchases from brokers

Energy + RECs

- Rooftop or Community Solar
- Green Tariffs
- PPAs via Direct Access
- Contracts for Differences / Virtual PPAs
- Direct project investment

CORPORATE LARGE-SCALE PPA MARKET



Source: BNEF, RMI Analysis

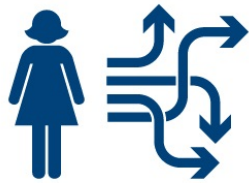
CORPORATE RENEWABLE ENERGY BUYERS' PRINCIPLES: INCREASING ACCESS TO RENEWABLE ENERGY

43 COMPANIES

30 MILLION MWH
OF DEMAND FOR
RENEWABLE ENERGY



CORPORATE RE BUYERS' PRINCIPLES



CHOICE

Greater choice in renewable energy options.



COST-COMPETITIVENESS

More access to cost-competitive options compared with traditional rates.



LONG-TERM PRICING

Access to long-term, fixed-price contracts.



FINANCING TOOLS

Streamlined third-party financing, as well as standardized contracts and simplified processes.



NEW PROJECTS

Access to new projects that reduce energy emissions over business as usual.

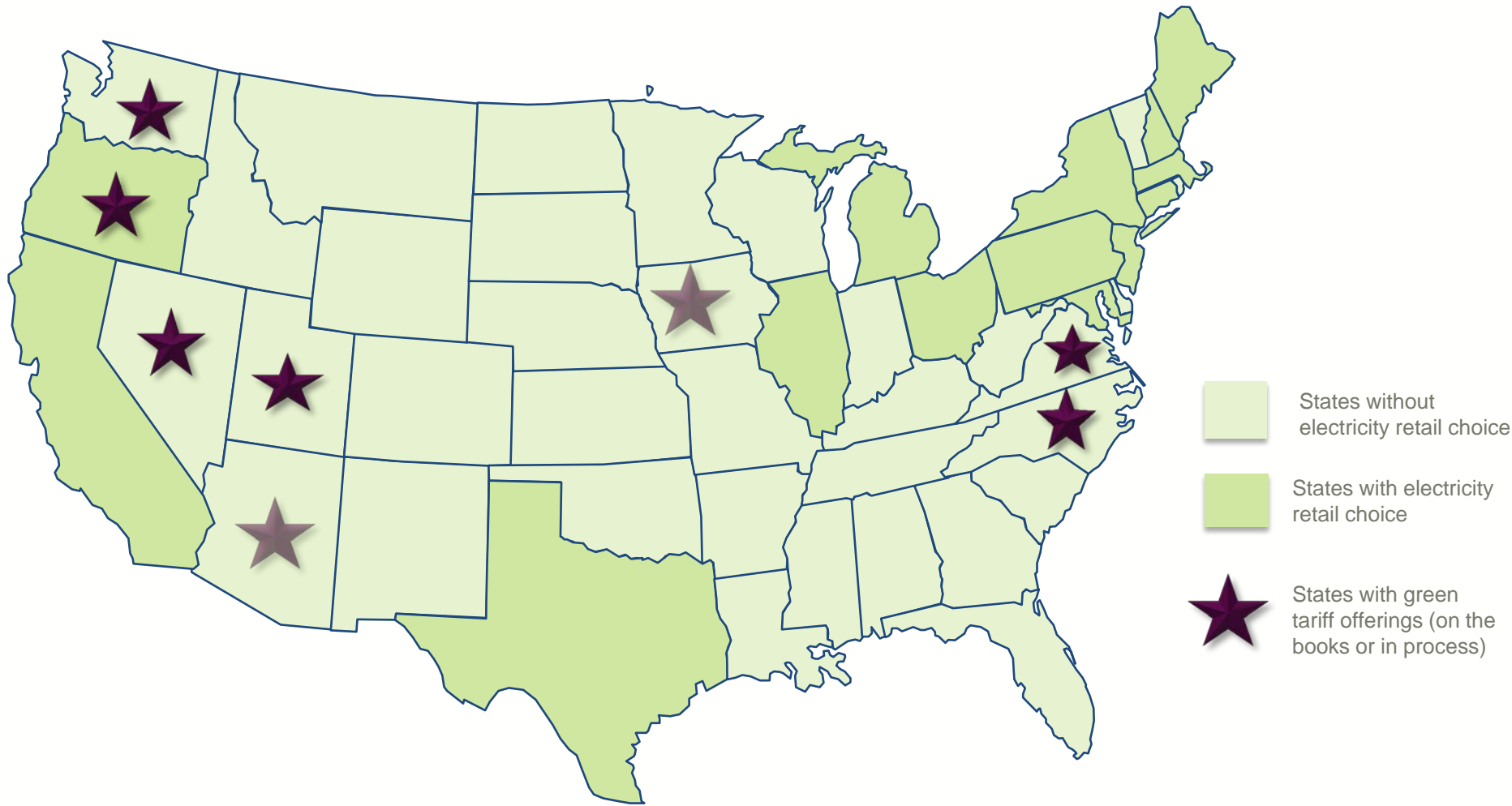


COOPERATION

Opportunities for increased options from utilities and regulators.



EMERGENCE OF GREEN TARIFFS





GREEN TARIFFS: THE IDEA

- Energy + RECs
- Fixed / predictable price for energy
- Protection from a fuel charge
- May allow lower than retail rates for the energy
- Expanding on regulatory models such as combined heat and power or direct access

DESIGN STRUCTURES: HIGH-LEVEL DIFFERENCES

	PSE – WA (proposed)	RMP – UT	NV Energy - NV	Duke – NC
Tariff type	New tariff	New tariff	Rider	Rider
Contract Terms	Energy demand	Power demand	Energy demand	Energy demand
Cost-competitive w/retail rates	Possible	Possible – even a discount	Possible	Always premium
Contract length	10 years; can extend to 15 years	Negotiated	Negotiated; min 2 years	Negotiated; 3 – 15 years
Flexibility	Yes (across facilities)	Yes (across facilities)	Yes (in trans. design)	
Possible ROI for utility	Yes	Yes	Yes	No
RE deals	N/A		Apple, Switch	in talks



EMERGING LESSONS

- Helpful - simplicity and the ability to hedge against retail rates, as CHP does
- Problem – significant premium or complexity
- Problem – capacity limitations prevent 100% RE goal

WHAT MAKES GREEN TARIFFS ATTRACTIVE TO CUSTOMERS?

- Price predictability
- (Potentially) lower project and energy costs
- Reliable counter-party in the utility
- Preserved capital
- Flexibility - move locations unlike on-site generation
- Additionality – pointing to a specific project



WHAT MAKES GREEN TARIFFS ATTRACTIVE TO UTILITIES?

- Predictable load in an era of rapid change
- Predictable revenue and return – unlike RECs only products
- Strong customer relationships
- Opportunity to plan for siting and integration – optimize
- Opportunity to value the lower carbon route to compliance



HOW TO PROTECT OTHER CUSTOMERS

- Separate the energy portion of the bill from the grid and other services
- Customer pays the cost of the energy used – extra production is priced at market
- Explicitly charge for shaping
- Penalties for early termination
- Soft-limit the program size to otherwise anticipated resource additions and 100% of customer demand



Further Reading

<http://www.wri.org/our-work/project/charge>

Letha Tawney

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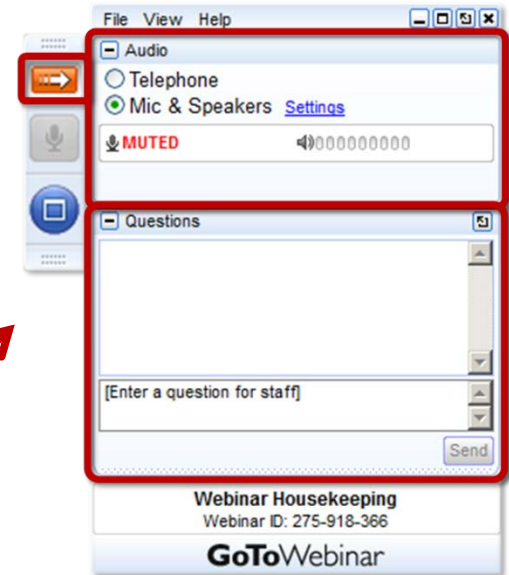
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Questions?

Submit questions via the Questions field in the webinar control panel.



mn.gov/commerce/energy