Next Generation of Utility-Offered RE Products for Large Buyers

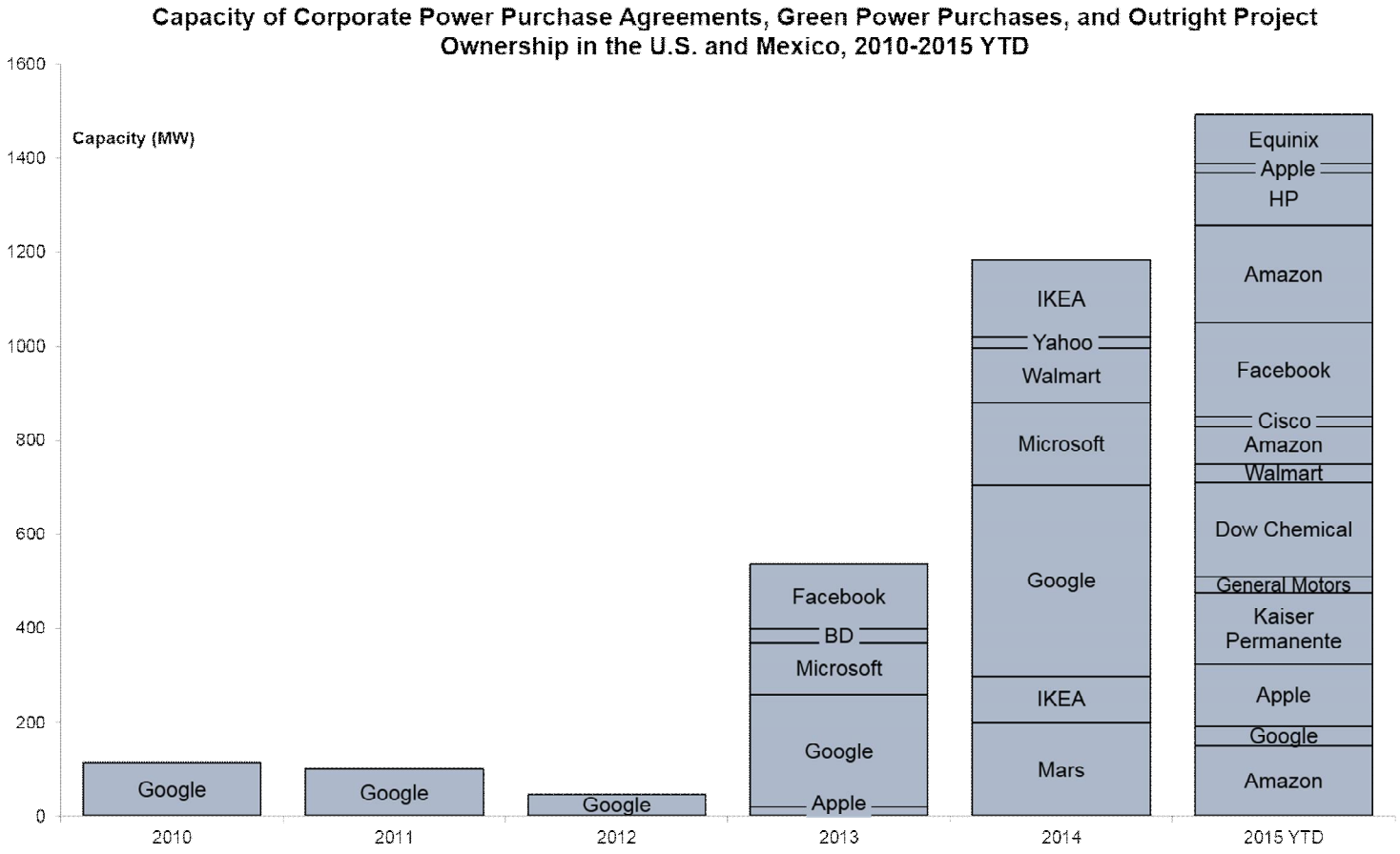
Corporate Buyer-Utility Renewable Energy Project

Bryn Baker
Manager, Renewable Energy
World Wildlife Fund

Eric Ackerman
Director, Alternative Regulation
Edison Electric Institute

October 19, 2015

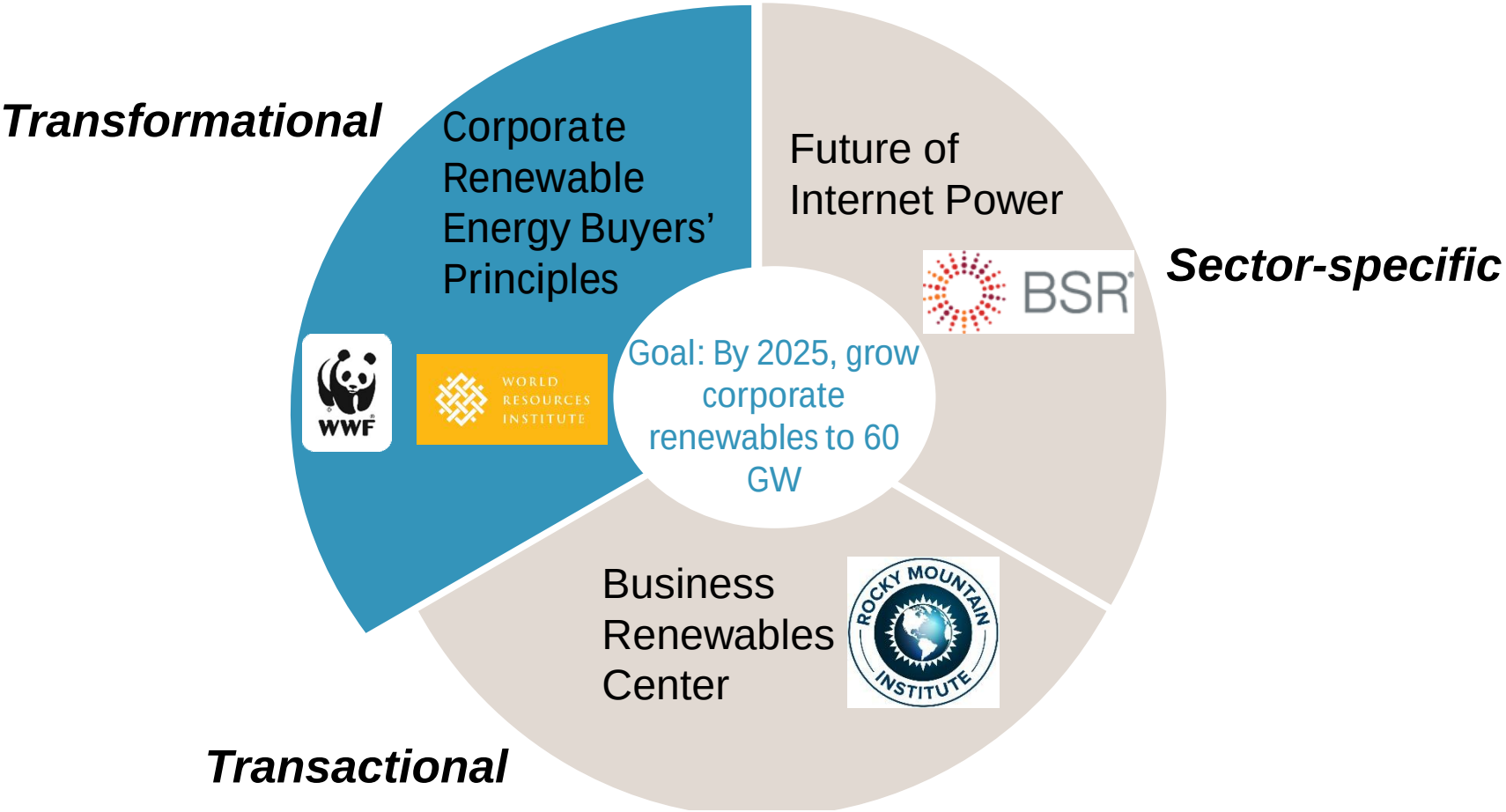
Corporate PPA Market



Source: BNEF
w/ RMI analysis

Corporate Renewables Partnership

Simplifying and increasing access to corporate renewables



43 COMPANIES

30 MILLION MWH OF DEMAND FOR RENEWABLE ENERGY

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

Bloomberg, BD, Sprint, ebay inc, VOLVO, Etsy, Microsoft, CISCO, ARUP, hp, ADITYA BIRLA NOVELIS, P&G, EQUINIX, novo nordisk, Adobe, DIGITAL REALTY, STAPLES, Walmart, intuit, HILTON WORLDWIDE, MARS, REI, Johnson & Johnson, IKEA, YAHOO!, salesforce, DUPONT, KAISER PERMANENTE, Unilever, AUTODESK, io, GM, TARGET, starwood Hotels and Resorts, amazon, 3M, EMC², workday, intel, Genentech A Member of the Roche Group, Sealed Air Re-imagine

WORLD RESOURCES INSTITUTE

www.buyersprinciples.org

Renewable Energy 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.

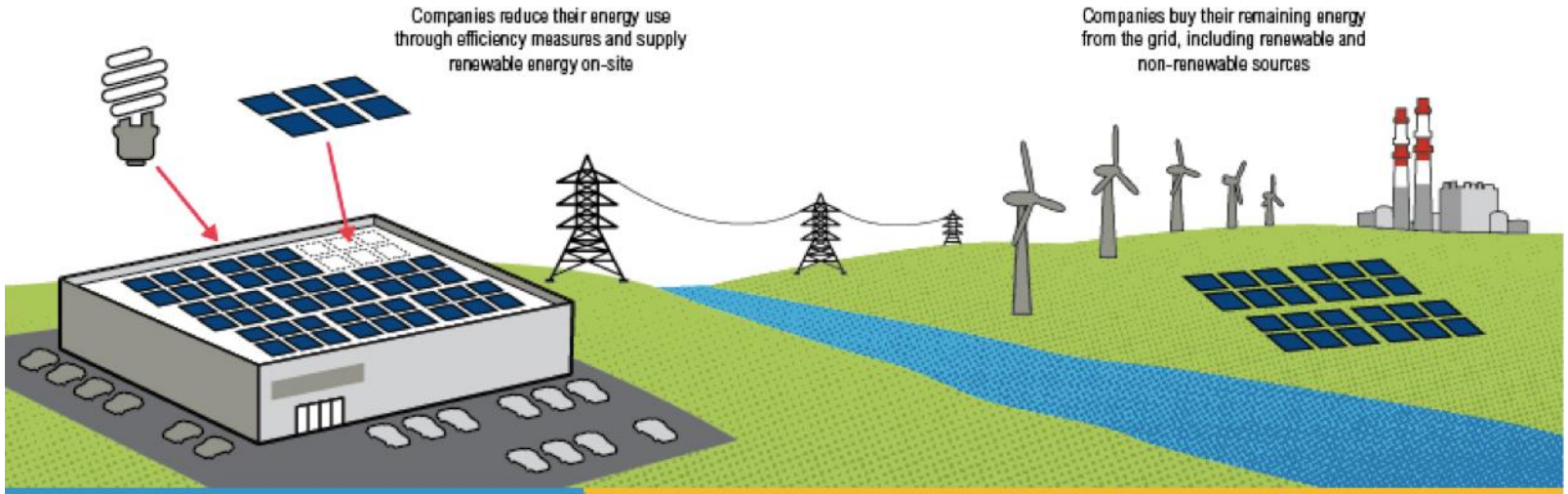
COOPERATION

Opportunities for increased options from utilities and regulators.

WWF

WORLD RESOURCES INSTITUTE

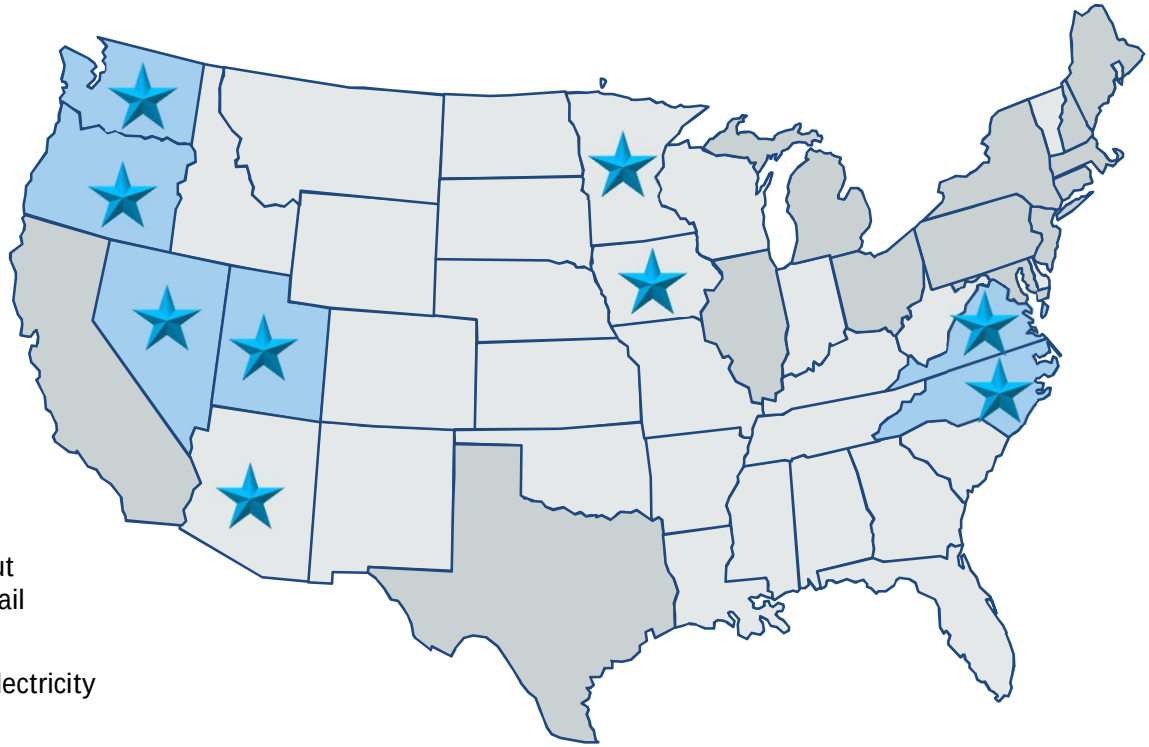
Companies Need Offsite, Grid-tied RE Options



30% Even the most energy-efficient big box stores can only supply 30% of their electricity on-site with rooftop solar energy; data centers, for example, can self-supply far less.

70% The remaining 70% of renewable energy needs must be delivered through the grid. Today, many companies have no way to choose renewable energy options from the grid, whether through their local utility or other generators.

Collaborating to make the Principles a Reality



States without electricity retail choice

States with electricity retail choice

States with green tariff offerings (on the books or in process)

Top Down

- National level collaboration and engagement with NARUC, and EEI

Bottom Up

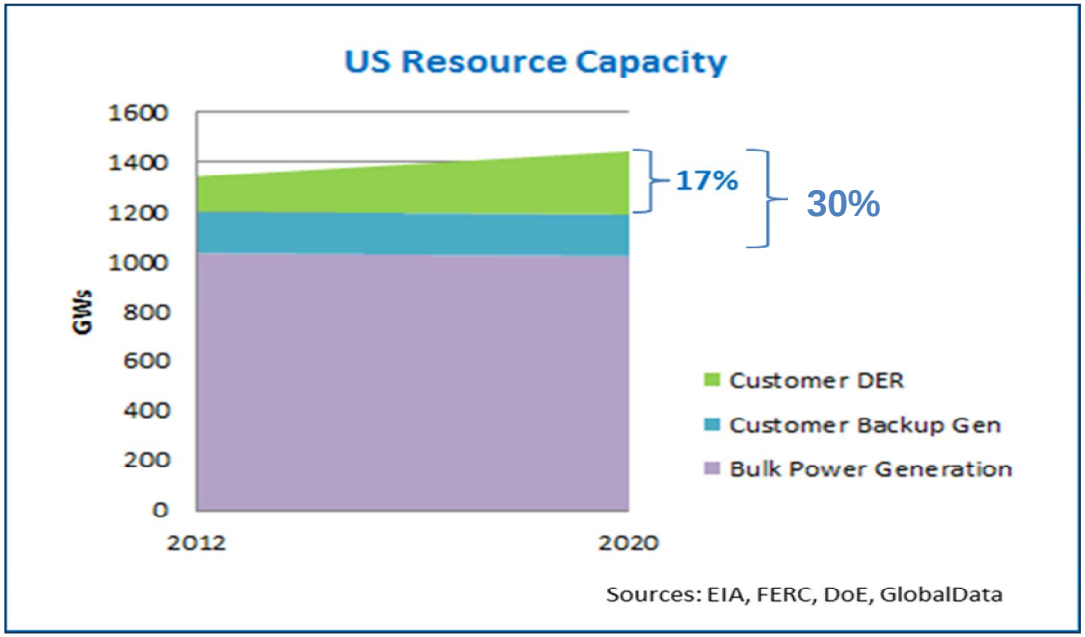
State engagement

WWF

WORLD RESOURCES INSTITUTE

Markets Are Changing: DER Is Growing At Scale

Effectively all incremental growth in capacity will come from customers



The Grid Is Being Modernized

- Customers are gaining new distributed energy resource options, including DG.
- The structure and operation of distribution systems will change as "smart" infrastructures are built out and new DER technologies are deployed.
  - Ultimately, power will flow in 2 directions across distribution systems.
  - Supporting a safe and reliable grid infrastructure is critical to the deployment of new technologies.

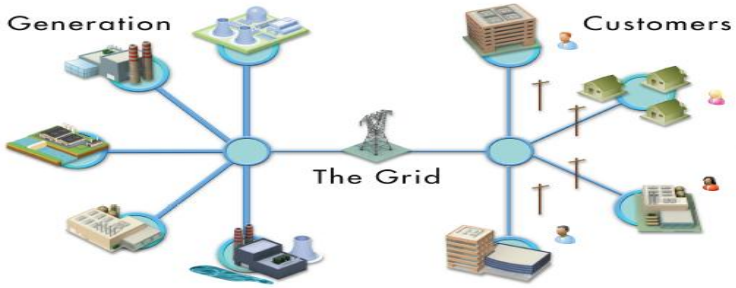


Figure 1: Today's Power System Characterized by Central Generation of Electricity, Transmission, and Distribution to End-Use Consumers

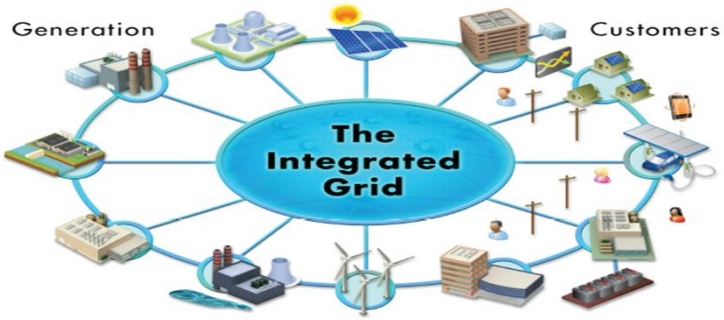
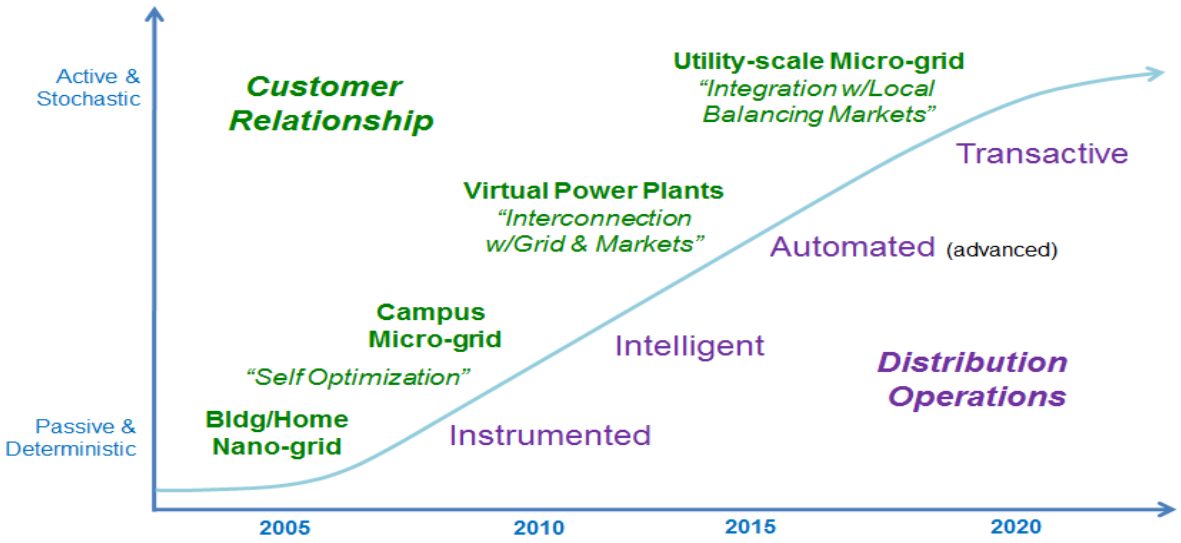


Figure 12: Creating an Architecture with Multi-Level Controller [44]

Source for graphics: EPRI, *The Integrated Grid: Realizing the Full Value of Central and Distributed Energy Resources*, February 2014

Customers Are Evolving – Need to Engage



- Increasingly networked, increasingly transactive

Project History

- Denver workshop, April 15
  - Understanding each other, building trust
- Research into existing utility-offered green products
  - Characterizing a representative sample
- DC workshop, October 7
  - Using existing products as a point of departure

WWF– EEI – WRI Collaboration

Areas of Common Interest:

- Additionality: Customers want to be able to claim they made a brand new project happen
- Enabling credible claims: Two issues:
  - Customers need the RECs to make claims but can end up competing with the utilities, who also need the RECs for compliance against RPS and now EPA Clean Power Plan
  - Customers and utilities agree that more education is needed on how renewables actually work (e.g. intermittency requires customer to pay for back-up power or storage for intermittent renewables but this creates a communication challenge for 100% goals)
- Scale: Customers need large-scale, offsite, grid-tied solutions to meet their goals and want to co-develop large offsite projects, leveraging utility strengths

WWF EEI WORLD RESOURCES INSTITUTE

WWF– EEI – WRI Collaboration

Areas of Common Interest:

- Risk mitigation: Both utilities and customers want price predictability
- Cost competitiveness: Customers and utilities are seeking partnership opportunities that provide value to both parties without impacting other rate payers
  - Large customers generally unwilling to pay a premium for RE but want to explore creative ways to create and share value (e.g. valuing the benefits customers offer to the grid system or utilizing company real estate in exchange for RECs)
- Low transaction costs: Customers and utilities want to explore ways to partner that lower the transaction costs

WWF EEI WORLD RESOURCES INSTITUTE

WWF– EEI – WRI Collaboration

Areas of Common Interest:

- Location: Most customers prefer local but want options that maximize cost-effectiveness and both utilities and customers want optimized grid deployment
- Flexibility: Customers are seeking flexible contract terms and contract options so offerings can work for a variety of customer types (e.g. contracts from 5-15 years)
- Transparency: Customers and utilities support more transparency of costs (charges) and savings (credits) on the bill
- Grid Modernization: Utilities and customers agree that the grid needs to be modernized as an enabler of more renewables integration

WWF EEI WORLD RESOURCES INSTITUTE

Key Challenge: Educating Policy Makers

- The average tenure of a public utility commissioner is ~ 3 yrs

- Policy makers need to understand
  - How the system works today
  - How it will work tomorrow – the direction of change, the need for utilities to adapt to changing markets
  - Where the public interest lies – Protecting competition, not competitors: the meaning of "efficient competition"

Key Challenge: Gaining Pricing Flexibility

- Cost of service regulation built for standard services
  - Services all customers take (no choice)
  - Least-cost planning
  - Costs recovered in large rate classes (residential, commercial, industrial)

- Large customers want optional services
  - Services about which they have choices
  - May be premium services
  - Costs only recovered from customers who want the services

- Learn more about large buyer-utility opportunities and collaboration at: www.BuyersPrinciples.org

Bryn Baker
bryn.baker@wwfus.org

Eric Ackerman
eackerman@eei.org

Appendix

Flexible Pricing Options

- Regulatory precedent
  - Discounts from standard tariffs
  - Optional tariffs open to all qualifying customers
  - Special (aka negotiated) customer-specific contracts
  - New services
  - Discretionary services
  - Special service packages (which may include standard services as components)