Policies in Support of Customers’ Purchase of Renewable Energy

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THE Brattle GROUP
Content

- Defining Policy Pathways to Advance Access to Renewable Energy
  - Defining the Pathways
  - Near- and Longer-Term Opportunities for REBA
- Current Analyses and Next Steps
Policy Pathways to Advance Access to Renewable Energy

The Brattle Group has been working with REBA to:

- Develop a menu of “Policy Pathways” to advance access to renewable energy for energy buyers

The goals of this effort are:

- **To apply “Policy Pathways” for certain states, model future scenarios in certain states, and evaluate potential impact**
  - Analyze current policies and features of selected states, including barriers for RE procurement
  - Develop state-level Policy Pathways tailored to the context of each state (8 selected states)
  - Evaluate effects of Policy Pathways qualitatively and quantitatively
Definitions of Policy Pathways

1. **Expand Federal/State/Utility Goals** to provide utilities procurement targets for clean energy directly or indirectly through emission reduction goals. The utility is the counterparty of RECs.

2. **Create or Improve Renewable Procurement Programs/Contracts:**
   i. **Utility Subscription Programs** allow customers to subscribe to a portion of a renewable PPA through a tariff. The utility is the counterparty (buyer) of the PPA: Example: Xcel Colorado Renewable Connect
   
   ii. **Utility Sleeve Contracts** allow customers to contract electricity from a specific renewable project through the utility. The utility is the counterparty (buyer) of the PPA that is sleeved through another contract with the buyer: Example: NV Green Energy Rider
   
   iii. **Utility Market-Based Programs** allow customers to purchase renewable energy directly from the wholesale energy markets at market-based prices through a utility: Example: Dominion (VA) Schedule MBR
   
   iv. **Standardized Wholesale Renewable Contracts**; a standardized renewable energy contract that minimizes transactions costs and can be scaled up to meet demand: Example: “REBA” Standard PPA
   
   v. **Standardized Retail Renewable Contracts** allow customers to engage third-party retail electricity providers using a standardized tariff rate.

3. **Introduce Forward Clean Energy Markets** to allow customers to purchase renewable and clean attributes in a centralized forward market that aggregates demand and supply

4. **Adopt a Wholesale Market** to allow renewable energy to be developed by independent developers and sold in an organized wholesale market

5. **Adopt Retail Choice** to allow customers to engage with third-party retail electricity providers.
Policy Pathways Identified

**Vertically Integrated Utility**
E.g. Arizona: Lacking both an RTO and retail choice, AZ customers are limited to utility programs to purchase renewables

**Wholesale Market Without Retail Choice**
E.g. Minnesota: Customers are limited to utility programs or virtual REC purchases or virtual PPAs

**Wholesale Market With Retail Choice**
E.g. Massachusetts: Located within ISO-NE and with retail choice, options exist for MA customers to procure RE

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**State/Utility Goals**

- Utility Subscription Program
- Utility Sleeve Contract
- Utility Market-based Program
- Forward Clean Energy Market
- Standardized Wholesale RE Contracts
- Standardized Retail RE Contracts

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**Contract/Program Options**

If Remains Outside of Organized Wholesale Market
- Encourage Participation in Organized Wholesale Market

If Remains Without Retail Choice
- If Participates in Organized Wholesale Market
  - Has Retail Access?
    - Yes
      - Encourage Retail Choice
    - No
      - If Participates in Organized Wholesale Market
        - Has Retail Access?
          - Yes
            - Encourage Retail Choice
          - No
            - If Remains Without Retail Choice
              - If Expands Retail Choice

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Policy Pathways

Vertically Integrated Utility
E.g. Arizona: Lacking both an RTO and retail choice, AZ customers are limited to utility programs to purchase renewables

Wholesale Market Without Retail Choice
E.g. Minnesota: Customers are limited to utility programs or virtual REC purchases or virtual PPAs

Policy Pathways

State/Utility Goals
Utility Subscription Program
Utility Sleeve Contract
Utility Market-based Program
Forward Clean Energy Market
Standardized Wholesale RE Contracts
Standardized Retail RE Contracts

Contract/Program Options

Encourage Participation in Organized Wholesale Market
If Remains Outside of Organized Wholesale Market
If Participates in Organized Wholesale Market
Already In Organized Wholesale Market?

Encourage Retail Choice
If Remains Without Retail Choice
If Expands Retail Choice

Has Retail Access?
No
Yes

State/Utility Goals
Utility Subscription Program
Utility Sleeve Contract
Utility Market-based Program
Forward Clean Energy Market
Standardized Wholesale RE Contracts
Standardized Retail RE Contracts

Wholesale Market With Retail Choice
E.g. Massachusetts: Located within ISO-NE and with retail choice, options exist for MA customers to procure RE

State/Utility Goals
Utility Subscription Program
Utility Sleeve Contract
Utility Market-based Program
Forward Clean Energy Market
Standardized Wholesale RE Contracts
Standardized Retail RE Contracts

If Remains Without Retail Choice

No
Yes
## Policy Pathways

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### State/Utility Goals

- Utility Subscription Program
- Utility Sleeve Contract
- Utility Market-based Program
- Forward Clean Energy Market
- Standardized Wholesale RE Contracts
- Standardized Retail RE Contracts

### Contract/Program Options

#### Increasing Customer Program/Contract Options

- If Remains Without Retail Choice
- If Expands Retail Choice
Main Takeaways

- Customers are focused on obtaining options to purchase renewable energy
- Policies to drive increase in RE access will depend on the current structure and policies in the states
- Different states will require different approaches
- Simulations of each state will inform REBA and buyers the likelihood of success in pursuing certain pathways

Next steps:
- Simulate diverse range of states to demonstrate effects of policy pathways
- Pursue other policy pathways to understand the potential implications, for example:
  - Federal renewable energy standard
  - Carbon price in the wholesale electricity market
Ms. Judy Chang is an energy economist and policy expert with a background in electrical engineering, and has over 20 years of experience in advising energy companies on regulatory and financial issues, with a focus on power sector investment decisions in clean energy, electric transmission, and energy storage. Ms. Chang has submitted expert testimonies to the U.S. Federal Energy Regulatory Commission, and U.S. state and Canadian provincial regulatory authorities on topics related to resource planning, power purchase and sale agreements, and transmission planning, access, and pricing. She has authored numerous reports and articles on the economic issues associated with generation and transmission investments, clean energy development, energy storage investments, and systems planning. In addition, she has led teams of energy company executives and board members in comprehensive organizational strategic and business planning.

Ms. Chang holds a Bachelor of Science in Electrical Engineering and Computer Science from University of California, Davis and a Master of Public Policy from Harvard Kennedy School. She co-manages the power sector practice at Brattle and is the founding board member of the New England Women in Energy and the Environment.
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