MARKETS AND TRADING: 
THE ROLE OF THE Voluntary MARKET

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Renewable Energy Markets Conference 2010
Portland, OR
Overview

1. The Community Energy Story
2. The Voluntary and Compliance Markets
3. Market Drivers
4. Market Value
5. The Future
Community Energy

*Building a Clean Energy Future*

- Clean energy market pioneer
- Experienced wind and solar developer
- Clean energy supplier to
  - 120,000+ residences and businesses
  - 20 utility green power programs
  - Some of the largest green power purchasers in the nation
- Founding member of REMA
The Beginning

1999 → Less than 10 MW of wind east of the Mississippi
2000 → CEI partnered with the first wind farms in PJM

- Goal: Build wind farms
- Idea: Customers want to make a difference and will pay more for renewable energy
- Result: Success! By 2004 built 154.5 MW of wind based on voluntary commitments

Somerset Wind Farm, PA
The Markets

➢ Voluntary
  • Established late 1990’s
  • Driven by customers who choose to support renewable energy
  • Early large purchasers 2005-2006: Whole Foods, Johnson & Johnson, Wells Fargo

➢ Compliance
  • Gained momentum mid-2000’s
  • Driven by mandated targets
  • 29 states have standards
RPS Policies

www.dsireusa.org / October 2010

CA: 33% x 2020
CO: 30% by 2020 (IOUs)
  10% by 2020 (co-ops & large munis)*
CT: 23% x 2020
DC: 20% x 2020
DE: 25% x 2026*
HI: 40% x 2030
IA: 105 MW
IL: 25% x 2025
IN: 10% x 2025
KS: 20% x 2020
KY: 10% x 2020 (IOUs)
LA: 10% x 2020
MA: 22.1% x 2020
  New Re: 15% x 2020
  (+1% annually thereafter)
MD: 20% x 2022
ME: 30% x 2000
  New RE: 10% x 2017
MI: 10% + 1,100 MW x 2015*
MN: 25% x 2025
  (Xcel: 30% x 2020)
MO: 15% x 2021
MT: 15% x 2015
NC: 12.5% x 2021 (IOUs)
  10% x 2018 (co-ops & munis)
NE: 15% x 2015
NH: 23.8% x 2025
NJ: 22.5% x 2021
NM: 20% x 2020 (IOUs)
  10% x 2020 (co-ops)
NV: 25% x 2025*
OH: 25% x 2025+
OR: 25% x 2025 (large utilities)*
  5% - 10% x 2025 (smaller utilities)
PA: ~18% x 2021†
PR: 20% x 2035
RI: 16% x 2020
SC: 15% x 2015
SD: 10% x 2015
TN: 10% x 2016
VT: (1) RE meets any increase in retail sales x 2012;
  (2) 20% RE & CHP x 2017
WA: 15% x 2020*
WI: Varies by utility;
  10% x 2015 statewide
WV: 25% x 2025†
WY: 15% x 2025*

RS: Renewable portfolio standard
PG: Renewable portfolio goal
SH: Solar water heating eligible
SM: Minimum solar or customer-sited requirement
EC: Extra credit for solar or customer-sited renewables
†: Includes non-renewable alternative resources

29 states + DC and PR have an RPS
(7 states have goals)
Voluntary Now

- More players in the market
  - Customers, marketers, developers, brokers
- Abundant supply
- High volume, lower priced sales
- National focus
## Market Differences

<table>
<thead>
<tr>
<th></th>
<th>Voluntary (today)</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Price</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Geographic preference</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Technology preference</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Verification</td>
<td>Green-e</td>
<td>State Agency (i.e. BPU or PUC)</td>
</tr>
</tbody>
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Both markets = Revenue for Generators
Historical Demand

Source: NREL Technical Report -6A2-46581
Projected Demand
Voluntary Market Contributions

- Pioneers for new generation
- Revenue stream for generators
- Raise awareness/advocate
- Established the foundation for the RE markets
- Helped shape public policy
- Provide price hedge for developers (PECO WIND)
Value

Customers value:

• Carbon value – lower cost, higher volume purchases
• Total value – other benefits include green power, local environmental and economic interests

Customers can provide more value to generators
Future

- Vibrant voluntary markets essential to lead the compliance markets
- New drivers/ products/ models needed
- Examples
  - Regional support
  - Hedges
  - Solar
  - Long term commitments
- Recognition Needed
Conclusion

- Significant market growth over past 10 years
- The voluntary and compliance markets complement each other and serve similar goals
- New market drivers needed
- The voluntary market is essential and can continue to lead in new markets
Thank You

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